Great Men and Famous Women

EVARISTE CARPENTIER.

Photogravure Goupil & Cº

MME. ROLAND IN THE PRISON OF STE. PÉLAGIE

BY

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GREAT MEN AND FAMOUS WOMEN

A Series of Pen and Pencil Sketches of

THE · LIVES · OF · MORE · THAN · 200 OF · THE · MOST · PROMINENT · PERSONAGES · IN · HISTORY

VOL. VI.

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BENEDICT ARNOLD*

By Edgar Fawcett

(1741–1801)

Some of Arnold's biographers have declared that he was a very vicious boy, and have chiefly illustrated this fact by painting him as a ruthless robber of birds'-nests. But a great many boys who began life by robbing birds'-nests have ended it much more creditably. The astonishing and interesting element in Benedict Arnold's career was what one might term the anomaly and incongruity of his treason. Born at Norwich, Conn., in 1741, he was blessed from his earliest years by wholesome parental influences. The education which he received was an excellent one, considering his colonial environment. Tales of his boyish pluck and hardihood cannot be disputed, while others that record his youthful cruelty are doubtless the coinings of slander. It is certain that in 1755, when the conflict known as "the old French war" first broke out, he gave marked proof of patriotism, though as yet the merest lad. Later, at the very beginning of the Revolution, he left his thriving business as a West India merchant in New Haven and headed a company of volunteers. Before the end of 1775 he had been made a commissioned colonel by the authorities of Massachusetts, and had marched through a sally-port, capturing the fortress of Ticonderoga, with tough old Ethan Allen at his side and 83 "Green Mountain Boys" behind him. Later, at the siege of Quebec, he behaved with splendid courage. Through great difficulties and hardships he dauntlessly led his band to the high-perched and almost impregnable town. Pages might be filled in telling how toilsome was this campaign, now requiring canoes and bateaux, now taxing the strength of its resolute little horde with rough rocks, delusive bogs, and all

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those fiercest terrors of famine which lurk in a virgin wilderness. Bitter cold, unmerciful snow-falls, drift-clogged streams, pelting storms, were constant features of Arnold's intrepid march. When we realize the purely unselfish and disinterested motive of this march, which has justly been compared to that of Xenophon with his 10,000, and to the retreat of Napoleon from Moscow as well, we stand aghast at the possibility of its having been planned and executed by one who afterward became the basest of traitors.

During the siege of Quebec Arnold was severely wounded, and yet he obstinately kept up the blockade even while he lay in the hospital, beset by obstacles, of which bodily pain was doubtless not the least. The arrival of General Wooster from Montreal with reinforcements rid Arnold, however, of all responsibility. Soon afterward the scheme of capturing Quebec and inducing the Canadas to join the cause of the United Colonies, came to an abrupt end. But in his desire to effect this purpose Arnold had identified himself with such lovers of their country as Washington, Schuyler, and Montgomery. And if the gallant Montgomery had then survived and Arnold had been killed, history could not sufficiently have eulogized him as a hero. Soon afterward he was promoted to the rank of brigadier-general, and on October 11, 1776, while commanding a flotilla of small vessels on Lake Champlain, he gained new celebrity for courage. The enemy was greatly superior in number to Arnold's forces. "They had," says Bancroft, "more than twice his weight of metal and twice as many fighting vessels, and skilled seamen and officers against landsmen." Arnold was not victorious in this naval fray, but again we find him full of lion-like valor. He was in the Congress galley, and there with his own hands often aimed the cannon on its bloody decks against the swarming masses of British gunboats. Arnold's popularity was very much augmented by his fine exploits on Lake Champlain. "With consummate address," says Sparks, "he penetrated the enemy's lines and brought off his whole fleet, shattered and disabled as it was, and succeeded in saving six of his vessels, and, it might be added, most of his men." Again, at the battle of Danbury he tempted death countless times; and at Loudon's Ferry and Bemis's Heights his prowess and nerve were the perfection of martial merit. It has been stated by one or two historians of good repute that Arnold was not present at all during the battle of Saratoga; but the latest and most trustworthy researches on this point would seem to indicate that he commanded there with discretion and skill. He was now a major-general, but his irascible spirit had previously been hurt by the tardiness with which this honor was conferred upon him, five of his juniors having received it before himself. He strongly disliked General Gates, too, and quarrelled with him because of what he held to be unfair behavior during the engagement at Bemis's Heights. At Stillwater, a month or so later in the same year (1777), he issued orders without Gates's permission, and conducted himself on the field with a kind of mad frenzy, riding hither and thither and seeking the most dangerous spots. All concur in stating, however, that his disregard of life was admirable, in spite of its foolish rashness. In this action he was also severely wounded.

One year later he was appointed to the command of Philadelphia, and here he married the daughter of a prominent citizen, Edward Shippen. This was his second marriage; he had been a widower for a number of years before its occurrence, and the father of three sons. Every chance was now afforded Arnold of wise and just rulership. In spite of past disputes and adventures not wholly creditable, he still presented before the world a fairly clean record, and whatever minor blemishes may have spotted his good name, these were obscured by the almost dazzling lustre of his soldierly career. But no sooner was he installed in his new position at Philadelphia than he began to show, with wilful perversity, those evil impulses which thus far had remained relatively latent. Almost as soon as he entered the town he disclosed to its citizens the most offensive traits of arrogance and tyranny. But this was not all. Not merely was he accused on every side of such faults as the improper issuing of passes, the closing of Philadelphia shops on his arrival, the imposition of menial offices upon the sons of freemen performing military duty, the use of wagons furnished by the State for transporting private property; but misdeeds of a far graver nature were traced to him, savoring of the criminality that prisons are built to punish. The scandalous gain with which he sought to fill a spendthrift purse caused wide and vehement rebuke. For a man of such high and peculiar place his commercial dabblings and speculative schemes argued most deplorably against him. There seems to be no doubt that he made personal use of the public moneys with which he was intrusted; that he secured by unworthy and illegal means a naval State prize, brought into port by a Pennsylvanian ship; and that he meditated the fitting up of a privateer, with intent to secure from the foe such loot on the high seas as piratical hazard would permit. His house in Philadelphia was one of the finest that the town possessed; he drove about in a carriage and four; he entertained with excessive luxury and a large retinue of servants; he revelled in all sorts of pompous parade. Such ostentation would have roused adverse comment amid the simple colonial surroundings of a century ago, even if he had merely been a citizen of extraordinary wealth. But being an officer intrusted with the most important dignities in a country both struggling for its freedom and impoverished as to funds, he now played a part of exceptional shame and folly.

Naturally his arraignment before the authorities of the State soon followed. The Council of Pennsylvania tried him, and though their final verdict was an extremely gentle one, its very mildness of condemnation proved poison to his truculent pride. Washington, the commander-in-chief, reprimanded him, but with language of exquisite lenity. Still, Arnold never forgave the stab that was then so deservingly yet so pityingly dealt him.

His colossal treason—one of the most monstrous in all the records of history, soon afterward began its wily work. Under the name of *Gustavus* he opened a correspondence with Sir Henry Clinton, an English officer in command at New York. Sir Henry at once scented the sort of villainy which would be of vast use to his cause, however he might loathe and contemn its designer. He instructed his aide-de-camp, Major John André, to send cautious and pseudo-

nymic replies. In his letters Arnold showed the burning sense of wrong from which he believed himself (and with a certain amount of justice) to be suffering. He had, when all is told, received harsh treatment from his country, considering how well he had served it in the past. Even Irving, that most dispassionate of historians, has called the action of the court-martial just mentioned an "extraordinary measure to prepossess the public mind against him." Beyond doubt, too, he had been repeatedly assailed by slanders and misstatements. The animosity of party feeling had more than once wrongfully assailed him, and his second marriage to the daughter of a man whose Tory sympathies were widely known had roused political hatreds, unsparing and headstrong.

But these facts are merely touched upon to make more clear the motive of his infamous plot. Determined to give the enemy a great vantage in return for the pecuniary indemnity that he required of them, this unhappy man stooped low enough to ask and obtain from Washington, the command of West Point. André, who had for months written him letters in a disguised hand under the name of John Anderson, finally met him, one night, at the foot of a mountain about six miles below Stony Point, called the Long Clove. Arnold, with infinite cunning, had devised this meeting, and had tempted the adventurous spirit of André, who left a British man-of-war called the Vulture in order to hold converse with his fellow-conspirator. But before the unfortunate André could return to his ship (having completed his midnight confab and received from Arnold the most damning documentary evidence of treachery) the Vulture was fired upon from Teller's Point by a party of Americans, who had secretly carried cannon thither during the earlier night. André was thus deserted by his own countrymen, for the Vulture moved away and left him with a man named Joshua Smith, a minion in Arnold's employ. Of poor André's efforts to reach New York, of his capture and final pathetic execution, we need not speak. On his person, at the time of his arrest, was found a complete description of the West Point post and garrison—documentary evidence that scorched with indelible disgrace the name of the man who had supplied it.

On September 25, 1780, Arnold escaped to a British sloop-of-war anchored below West Point. He was made a colonel in the English army, and is said to have received the sum of £6,315 as the price of his treachery. The command of a body of troops in Connecticut was afterward given him, and he then showed a rapacity and intolerance that well consorted with the new position he had so basely purchased. The odium of his injured countrymen spoke loudly throughout the land he had betrayed. He was burned in effigy countless times, and a growing generation was told with wrath and scorn the abhorrent tale of his turpitude. Meanwhile, as if by defiant self-assurance to wipe away the perfidy of former acts, he issued a proclamation to "the inhabitants of America," in which he strove to cleanse himself from blame. This address, teeming with flimsy protestations of patriotism, reviling Congress, vituperating France as a worthless and sordid ally of the Crown's rebellious subjects, met on all sides the most contemptuous derision. Arnold passed nearly all the remainder of his life—eleven

years or thereabouts—in England. He died in London, worn out with a nervous disease, on June 14, 1801. It is a remarkable fact that his second wife, who had till the last remained faithful to him, suffered acutely at his death, and both spoke and wrote of him in accents of strongest bereavement.

To the psychologic student of human character, Benedict Arnold presents a strangely fascinating picture. Elements of good were unquestionably factors of his mental being. But pride, revenge, jealousy, and an almost superhuman egotism fatally swayed him. He desired to lead in all things, and he had far too much vanity, far too little self-government, and not half enough true morality to lead with success and permanence in any. The wrongs which beyond doubt his country inflicted upon him he was incapable of bearing like a stoic. Virile and patriotic from one point of view, he was childish and weak-fibred from another. He has been likened to Marlborough, though by no means so great a soldier. Yet it is true that John Churchill won his dukedom by deserting his former benefactor, James II., and joining the Whig cause of William of Orange. If the Revolution had been crushed, we cannot blind our eyes to the fact that Arnold's treason would have received from history far milder dealing than is accorded it now. Even the radiant name of Washington would very probably have shone to us dimmed and blurred through a mist of calamity. Posterity may respect the patriot whose star sinks in unmerited failure, but it bows homage to him if he wages against despotism a victorious fight. Supposing that Arnold's surrender of West Point had extinguished that splendid spark of liberty which glowed primarily at Lexington and Bunker Hill, the chances are that he might have received an English peerage and died in all the odor of a distinction as brilliant as it would have been undeserved. The triumph of the American rebellion so soon after he had ignominiously washed his hands of it, sealed forever his own social doom. That, it is certain, was most severe and drastic. The money paid him by the British Government was accursed as were the thirty silver pieces of Iscariot; for his passion to speculate ruined him financially some time before the end of his life, and he breathed his last amid comparative poverty and the dread of still darker reverses.

Extreme sensitiveness is apt to accompany a spirit of just his high-strung, petulant, and spleenful sort. Beyond doubt he must have suffered keen torments at the disdain with which he was everywhere met in English society, and chiefly among the military officers whom his very conduct, renegade though it was, had in a measure forced to recognize him. When Lord Cornwallis gave his sword to Washington, its point pierced Arnold's breast with a wound rankling and incurable. He had played for high stakes with savage and devilish desperation. Our national independence meant his future slavery; our priceless gain became his irretrievable loss. It is stated that as death approached him he grew excessively anxious about the risky and shattered state of his affairs. His mind wandered, as Mrs. Arnold writes, and he fancied himself once more fighting those battles which had brought him honor and fame. It was then that he would call for his old insignia of an American soldier and would desire to be again clothed in them.

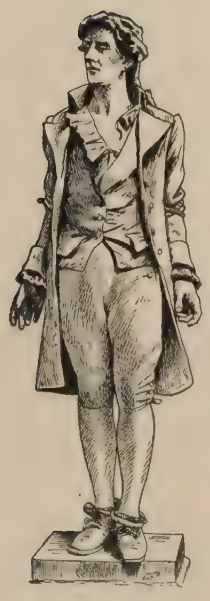
"Bring me, I beg of you," he is reported to have said, "the epaulettes and sword-knots which Washington gave me. Let me die in my old American uniform, the uniform in which I fought my battles!" And once, it is declared, he gave vent to these most significant and terrible words: "God forgive me for ever putting on any other!" That country which he forswore in the hour of its direst need can surely afford to forgive Benedict Arnold as well. Grown the greatest republic of which history keeps any record, America need not find it difficult both to forget the wretched frailties of this, her grossly misguided son, and at the same time to remember what services he performed for her while as yet his baleful qualities had not swept beyond all bounds of restraint.

Edgar Fawcett.

NATHAN HALE*

By Rev. Edward Everett Hale

(1755–1776)



Nathan Hale, a martyr soldier of the American Revolution, was born in Coventry, Conn., on June 6, 1755. When but little more than twenty-one years old he was hanged, by order of General William Howe, as a spy, in the city of New York, on September 22, 1776.

At the great centennial celebration of the Revolution, and the part which the State of Connecticut bore in it, an immense assembly of the people of Connecticut, on the heights of Groton, took measures for the erection of a statue in Hale's honor. Their wish has been carried out by their agents in the government of the State. A bronze statue of Hale is in the State Capitol. Another bronze statue of him has been erected in the front of the Wadsworth Athenæum in Hartford. Another is in the city of New York.

Nathan Hale's father was Richard Hale, who had emigrated to Coventry, from Newbury, Mass., in 1746, and had married Elizabeth, the daughter of Joseph Strong. By her he had twelve children, of whom Nathan was the sixth.

Richard Hale was a prosperous and successful farmer. He sent to Yale College at one time his two sons, Enoch and Nathan, who had been born within two years of each other. This college was then under the direction of Dr. Daggett. Both the young men enjoyed study, and Nathan Hale, at the exercises of

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Commencement Day took what is called a part, which shows that he was among the thirteen scholars of highest rank in his class.

From the record of the college society to which he belonged, it appears that he was interested in their theatrical performances. These were not discouraged by the college government, and made a recognized part of the amusements of the college and the town. Many of the lighter plays brought forward on the English stage were thus produced by the pupils of Yale College for the entertainment of the people of New Haven.

When he graduated, at the age of eighteen, he probably intended at some time to become a Christian minister, as his brother Enoch did. But, as was almost a custom of the time, he began his active life as a teacher in the public schools, and early in 1774 accepted an appointment as the teacher of the Union Grammar School, a school maintained by the gentlemen of New London, Conn., for the higher education of their children. Of thirty-two pupils, he says, "ten are Latiners and all but one of the rest are writers."

In his commencement address Hale had considered the question whether the higher education of women were not neglected. And, in the arrangement of the Union School at New London, it was determined that between the hours of five and seven in the morning, he should teach a class of "twenty young ladies" in the studies which occupied their brothers at a later hour.

He was thus engaged in the year 1774. The whole country was alive with the movements and discussions which came to a crisis in the battle of Lexington the next year. Hale, though not of age, was enrolled in the militia and was active in the military organization of the town.

So soon as the news of Lexington and Concord reached New London, a town-meeting was called. At this meeting, this young man, not yet of age, was one of the speakers. "Let us march immediately," he said, "and never lay down our arms until we obtain our independence." He assembled his school as usual the next day, but only to take leave of his scholars. "He gave them earnest counsel, prayed with them, shook each by the hand," and bade them farewell.

It is said that there is no other record so early as this in which the word "independence" was publicly spoken. It would seem as if the uncalculating courage of a boy of twenty were needed to break the spell which still gave dignity to colonial submission.

He was commissioned as First Lieutenant in the Seventh Connecticut regiment, and resigned his place as teacher. The first duty assigned to the regiment was in the neighborhood of New London, where, probably, they were perfecting their discipline. On September 14, 1775, they were ordered by Washington to Cambridge. There they were placed on the left wing of his army, and made their camp at the foot of Winter Hill. This was the post which commanded the passage from Charlestown, one of the only two roads by which the English could march out from Boston. Here they remained until the next spring. Hale himself gives the most interesting details of that great victory by which Washington and his officers changed that force of minute-men, by which they had overawed

Boston in 1775, into a regular army. Hale re-enlisted as many of the old men as possible, and then went back to Coventry to engage, from his old school companions, soldiers for the war. After a month of such effort at home, he came back with a body of recruits to Roxbury.

On January 30th his regiment was removed to the right wing in Roxbury. Here they joined in the successful night enterprise of March 4th and 5th, by which the English troops were driven from Boston.

So soon as the English army had left the country, Washington knew that their next point of attack would be New York. Most of his army was, therefore, sent there, and Webb's regiment among the rest. They were at first assigned to the Canada army, but because they had a good many seafaring men, were reserved for service near New York, where their "web-footed" character served them well more than once that summer. Hale marched with the regiment to New London, whence they all went by water to New York. On that critical night, when the whole army was moved across to New York after the defeat at Brooklyn, the regiment rendered effective service.

It was at this period that Hale planned an attack, made by members of his own company, to set fire to the frigate Phœnix. The frigate was saved, but one of her tenders and four cannons and six swivels were taken. The men received the thanks, praises, and rewards of Washington, and the frigate, with her companions, not caring to risk such attacks again, retired to the Narrows. Soon after this little brush with the enemy, Colonel Knowlton, of one of the Connecticut regiments, organized a special corps, which was known as Knowlton's Rangers. On the rolls of their own regiments the officers and men are spoken of as "detached on command." They received their orders direct from Washington and Putnam, and were kept close in front of the enemy, watching his movements from the American line in Harlem. It was in this service, on September 15th, that Knowlton's Rangers, with three Virginia companies, drove the English troops from their position in an open fight. It was a spirited action, which was a real victory for the attacking force. Knowlton and Leitch, the leaders, were both killed. In his general orders Washington spoke of Knowlton as a gallant and brave officer who would have been an honor to any country.

But Hale, alas! was not fighting at Knowlton's side. He was indeed "detached for special service." Washington had been driven up the island of New York, and was holding his place with the utmost difficulty. On September 6th he wrote, "We have not been able to obtain the least information as to the enemy's plans." In sheer despair at the need of better information than the Tories of New York City would give him, the great commander consulted his council, and at their direction summoned Knowlton to ask for some volunteer of intelligence, who would find his way into the English lines, and bring back some tidings that could be relied upon. Knowlton summoned a number of officers, and stated to them the wishes of their great chief. The appeal was received with dead silence. It is said that Knowlton personally addressed a non-commissioned officer, a Frenchman, who was an old soldier. He did so only to receive the natural

reply, "I am willing to be shot, but not to be hung." Knowlton felt that he must report his failure to Washington. But Nathan Hale, his youngest captain, broke the silence. "I will undertake it," he said. He had come late to the meeting. He was pale from recent sickness. But he saw an opportunity to serve, and he did the duty which came next his hand.

William Hull, afterward the major-general who commanded at Detroit, had been Hale's college classmate. He remonstrated with his friend on the danger of the task, and the ignominy which would attend its failure. "He said to him that it was not in the line of his duty, and that he was of too frank and open a temper to act successfully the part of a spy, or to face its dangers, which would probably lead to a disgraceful death." Hale replied, "I wish to be useful, and every kind of service necessary to the public good becomes honorable by being necessary. If the exigencies of my country demand a peculiar service, its claims to perform that service are imperious." These are the last words of his which can be cited until those which he spoke at the moment of his death. He promised Hull to take his arguments into consideration, but Hull never heard from him again.

In the second week of September he left the camp for Stamford with Stephen Hempstead, a sergeant in Webb's regiment, from whom we have the last direct account of his journey. With Hempstead and Asher Wright, who was his servant in camp, he left his uniform and some other articles of property. He crossed to Long Island in citizen's dress, and, as Hempstead thought, took with him his college diploma, meaning to assume the aspect of a Connecticut schoolmaster visiting New York in the hope to establish himself. He landed near Huntington, or Oyster Bay, and directed the boatman to return at a time fixed by him, the 20th of September. He made his way into New York, and there, for a week or more apparently, prosecuted his inquiries. He returned on the day fixed, and awaited his boat. It appeared, as he thought; and he made a signal from the shore. Alas! he had mistaken the boat. She was from an English frigate, which lay screened by a point of woods, and had come in for water. Hale attempted to retrace his steps, but was too late. He was seized and examined. Hidden in the soles of his shoes were his memoranda, in the Latin language. They compromised him at once. He was carried on board the frigate, and sent to New York the same day, well guarded.

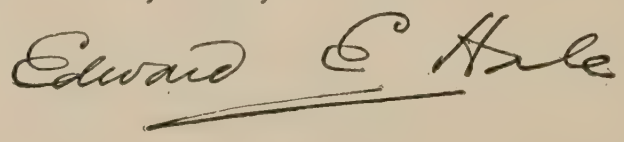
It was at an unfortunate moment, if anyone expected tenderness from General Howe. Hale landed while the city was in the terror of the great conflagration of September 21st. In that fire nearly a quarter of the town was burned down. The English supposed, rightly or not, that the fire had been begun by the Americans. The bells had been taken from the churches by order of the Provincial Congress. The fire-engines were out of order, and for a time it seemed impossible to check the flames. Two hundred persons were sent to jail upon the supposition that they were incendiaries. It is in the midst of such confusion that Hale is taken to General Howe's head-quarters, and there he meets his doom.

No testimony could be stronger against him than the papers on his person. He was not there to prevaricate, and he told them his rank and name. There was no trial, and Howe at once ordered that he should be hanged the next morning. Worse than this, had he known it, he was to be hanged by William Cunningham, the Provost-Major, a man whose brutality, through the war disgraced the British army. It is a satisfaction to know that Cunningham was hanged for his deserts in England, not many years after.*

Hale was confined for the night of September 21st in the greenhouse of the garden of Howe's head-quarters. This place was known as the Beekman Mansion, at Turtle Bay. This house was standing until within a few years.

Early the next day he was led to his death. "On the morning of the execution," said Captain Montresor, an English officer, "my station being near the fatal spot, I requested the Provost-Marshal to permit the prisoner to sit in my marquee while he was making the necessary preparations. Captain Hale entered. He asked for writing materials, which I furnished him. He wrote two letters; one to his mother and one to a brother officer. The Provost-Marshal destroyed the letters, and assigned as a reason that the rebels should not know that they had a man in their army who could die with so much firmness."

Hale asked for a Bible, but his request was refused. He was marched out by a guard and hanged upon an apple-tree in Rutgers's orchard. The place was near the present intersection of East Broadway and Market Streets. Cunningham asked him to make his dying "speech and confession." "I only regret," he said, "that I have but one life to lose for my country."



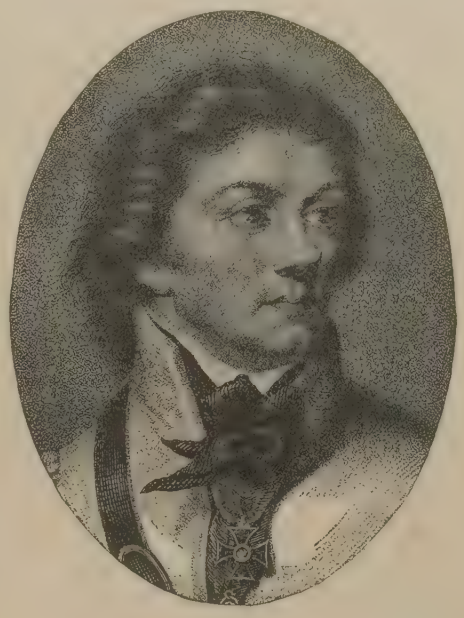
THADDEUS KOSCIUSKO

(1746–1817)

Among the remarkable men of modern times there is perhaps none whose fame is purer from reproach than that of Thaddeus Kosciusko. His name is enshrined in the ruins of his unhappy country, which, with heroic bravery and devotion, he sought to defend against foreign oppression and foreign domination. Kosciusko was born at Warsaw about the year 1746. He was educated at the School of Cadets, in that city, where he distinguished himself so much in scientific studies as well as in drawing, that he was selected as one of four students of that institution,

* Such is the current tradition and belief, that he was hanged at Newgate; but Mr. George Bancroft found no such name in the records of the prison.

who were sent to travel at the expense of the state, with a view of perfecting their talents. In this capacity he visited France, where he remained for several years, devoting himself to studies of various kinds. On his return to his own country he entered the army, and obtained the command of a company. But he was soon obliged to expatriate himself again, in order to fly from a violent but unrequited passion for the daughter of the Marshal of Lithuania, one of the first officers of state of the Polish court.



He bent his steps to that part of North America which was then waging its war of independence against England. Here he entered the army, and served with distinction as one of the adjutants of General Washington. While thus employed, he became acquainted with Lafayette, Lameth, and other distinguished Frenchmen serving in the same cause, and was honored by receiving the most flattering praises from Franklin, as well as the public thanks of the Congress of the United Provinces. He was also decorated with the new American order of Cincinnatus, being the only European, except Lafayette, to whom it was given.

At the termination of the war he returned to his own country, where he lived in retirement till the year 1789, at which period he was promoted by the Diet to the rank of major-general. That body was at this time endeavoring to place its military force upon a respectable footing, in the vain hope of restraining and diminishing the domineering influence of foreign powers in what still remained of Poland. It also occupied itself in changing the vicious constitution of that unfortunate and ill-governed country—in rendering the monarchy hereditary, in declaring universal toleration, and in preserving the privileges of the nobility, while at the same time it ameliorated the condition of the lower orders. In all these improvements Stanislas Poniatowski, the reigning king, readily concurred; though the avowed intention of the Diet was to render the crown hereditary in the Saxon family. The King of Prussia (Frederick William II.), who, from the time of the treaty of Cherson, in 1787, between Russia and Austria, had become hostile to the former power, also encouraged the Poles in their proceedings; and even gave them the most positive assurances of assisting them, in case the changes they were effecting occasioned any attacks from other sovereigns.

Russia at length, having made peace with the Turks, prepared to throw her sword into the scale. A formidable opposition to the measures of the Diet had arisen, even among the Poles themselves, and occasioned what was called the confederation of Targowicz, to which the Empress of Russia promised her assistance. The feeble Stanislas, who had proclaimed the new constitution in 1791,

bound himself in 1792 to sanction the Diet of Grodno, which restored the ancient constitution, with all its vices and all its abuses. In the meanwhile Frederick William, King of Prussia, who had so mainly contributed to excite the Poles to their enterprises, basely deserted them, and refused to give them any assistance. On the contrary, he stood aloof from the contest, waiting for that share of the spoil which the haughty empress of the north might think proper to allot to him, as a reward of his non-interference.

But though thus betrayed on all sides, the Poles were not disposed to submit without a struggle. They flew to arms, and found in the nephew of their king, the Prince Joseph Poniatowski, a general worthy to conduct so glorious a cause. Under his command Kosciusko first became known in European warfare. He distinguished himself in the battle of Zielenec, and still more in that of Dubienska, which took place on June 18, 1792. Upon this latter occasion he defended for six hours, with only 4,000 men, against 15,000 Russians, a post which had been slightly fortified in twenty-four hours, and at last retired with inconsiderable loss.

But the contest was too unequal to last; the patriots were overwhelmed by enemies from without, and betrayed by traitors within, at the head of whom was their own sovereign. The Russians took possession of the country, and proceeded to appropriate those portions of Lithuania and Volhynia which suited their convenience; while Prussia, the friendly Prussia, invaded another part of the kingdom.

Under these circumstances the most distinguished officers in the Polish army retired from the service, and of this number was Kosciusko. Miserable at the fate of his unhappy country, and at the same time an object of suspicion to the ruling powers, he left his native land and retired to Leipsic, where he received intelligence of the honor which had been conferred upon him by the Legislative Assembly of France, who had invested him with the quality of a French citizen.

But his fellow-countrymen were still anxious to make another struggle for independence, and they unanimously selected Kosciusko as their chief and generalissimo. He obeyed the call, and found the patriots eager to combat under his orders. Even the noble Joseph Poniatowski, who had previously commanded in chief, returned from France, whither he had retired, and received from the hands of Kosciusko the charge of a portion of his army.

The patriots had risen in the north of Poland, to which part Kosciusko first directed his steps. Anxious to begin his campaign with an action of vigor, he marched rapidly toward Cracow, which town he entered triumphantly on March 24, 1794. He forthwith published a manifesto against the Russians; and then, at the head of only 5,000 men, he marched to meet their army. He encountered, on April 4th, 10,000 Russians at a place called Wraclawic, and entirely defeated them after a combat of four hours. He returned in triumph to Cracow, and shortly afterward marched along the left bank of the Vistula to Polaniec, where he established his head-quarters.

Meanwhile the inhabitants of Warsaw, animated by the recital of the heroic

deeds of their countrymen, had also raised the standard of independence, and were successful in driving the Russians from the city, after a murderous conflict of three days. In Lithuania and Samogitia an equally successful revolution was effected before the end of April, while the Polish troops stationed in Volhynia and Podolia marched to the reinforcement of Kosciusko.

Thus far fortune seemed to smile upon the cause of Polish freedom—the scene was, however, about to change. The undaunted Kosciusko, having first organized a national council to conduct the affairs of government, once more advanced against the Russians. On his march he met a new enemy in the person of the faithless Frederick William, of Prussia, who, without having even gone through the preliminary of declaring war, had advanced into Poland at the head of 40,000 men.

Kosciusko, with but 13,000 men, attacked the Prussian army on June 8th, at Szcekociny. The battle was long and bloody; at length, overwhelmed by numbers, he was obliged to retreat toward Warsaw. This he effected in so able a manner that his enemies did not dare to harass him in his march; and he effectually covered the capital and maintained his position for two months against vigorous and continued attacks. Immediately after this reverse the Polish general, Zaionczeck, lost the battle of Chelm, and the Governor of Cracow had the baseness to deliver the town to the Prussians without attempting a defence.

These disasters occasioned disturbances among the disaffected at Warsaw, which, however, were put down by the vigor and firmness of Kosciusko. On July 13th the forces of the Prussians and Russians, amounting to 50,000 men, assembled under the walls of Warsaw, and commenced the siege of that city. After six weeks spent before the place, and a succession of bloody conflicts, the confederates were obliged to raise the siege; but this respite to the Poles was but of short duration.

Their enemies increased fearfully in number, while their own resources diminished. Austria now determined to assist in the annihilation of Poland, and caused a body of her troops to enter that kingdom. Nearly at the same moment the Russians ravaged Lithuania; and the two corps of the Russian army commanded by Suwarof and Fersen, effected their junction in spite of the battle of Krupezyce, which the Poles had ventured upon, with doubtful issue, against the first of these commanders, on September 16th.

Upon receiving intelligence of these events Kosciusko left Warsaw, and placed himself at the head of the Polish army. He was attacked by the very superior forces of the confederates on October 10, 1794, at a place called Macieiowice, and for many hours supported the combat against overwhelming odds. At length he was severely wounded, and as he fell, he uttered the prophetic words "*Finis Poloniæ.*" It is asserted that he had exacted from his followers an oath, not to suffer him to fall alive into the hands of the Russians, and that in consequence the Polish cavalry, being unable to carry him off, inflicted some severe sabre wounds on him and left him for dead on the field; a savage fidelity, which we half admire even in condemning it. Be this as it may, he was recognized and

delivered from the plunderers by some Cossack chiefs; and thus was saved from death to meet a scarcely less harsh fate—imprisonment in a Russian dungeon.

Thomas Wawrzecki became the successor of Kosciusko in the command of the army; but with the loss of their heroic leader all hope had deserted the breasts of the Poles. They still, however, fought with all the obstinacy of despair, and defended the suburb of Warsaw, called Praga, with great gallantry. At length this post was wrested from them. Warsaw itself capitulated on November 9, 1794; and this calamity was followed by the entire dissolution of the Polish army on the 18th of the same month.

During this time, Kosciusko remained in prison at St. Petersburg; but, at the end of two years, the death of his persecutress, the Empress Catharine, released him. One of the first acts of the Emperor Paul was to restore him to liberty, and to load him with various marks of his favor. Among other gifts of the autocrat was a pension, by which, however, the high-spirited patriot would never consent to profit. No sooner was he beyond the reach of Russian influence than he returned to the donor the instrument by which this humiliating favor was conferred. From this period the life of Kosciusko was passed in retirement. He went first to England, and then to the United States of America. He returned to the Old World in 1798, and took up his abode in France, where he divided his time between Paris and a country-house he had bought near Fontainebleau. While here he received the appropriate present of the sword of John Sobieski, which was sent to him by some of his countrymen serving in the French armies in Italy, who had found it in the shrine at Loretto.

Napoleon, when about to invade Poland in 1807, wished to use the name of Kosciusko in order to rally the people of the country round his standard. The patriot, aware that no real freedom was to be hoped for under such auspices, at once refused to lend himself to his wishes. Upon this the emperor forged Kosciusko's signature to an address to the Poles, which was distributed throughout the country. Nor would he permit the injured person to deny the authenticity of this act in any public manner. The real state of the case was, however, made known to many through the private representations of Kosciusko; but he was never able to publish a formal denial of the transaction till after the fall of Napoleon.

When the Russians, in 1814, had penetrated into Champagne, and were advancing toward Paris, they were astonished to hear that their former adversary was living in retirement in that part of the country. The circumstances of this discovery were striking. The commune in which Kosciusko lived was subjected to plunder, and among the troops thus engaged he observed a Polish regiment. Transported with anger, he rushed among them, and thus addressed the officers: "When I commanded brave soldiers they never pillaged; and I should have punished severely subalterns who allowed of disorders such as those which we see around. Still more severely should I have punished older officers, who authorized such conduct by their culpable neglect." "And who are you," was the general cry, "that you dare to speak with such boldness to us?" "I am Kosciusko." The effect was electric: the soldiery cast down their arms, prostrated

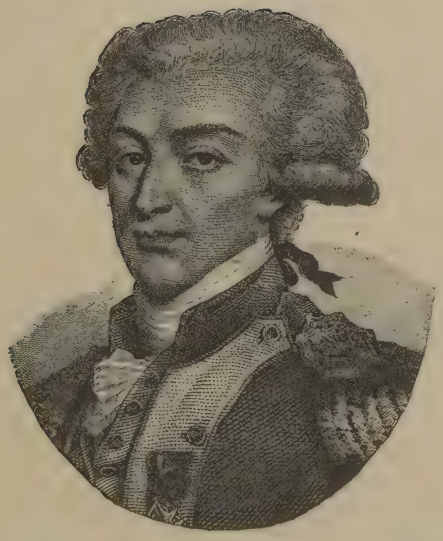
themselves at his feet, and cast dust upon their heads according to a national usage, supplicating his forgiveness for the fault which they had committed. For twenty years the name of Kosciusko had not been heard in Poland save as that of an exile; yet it still retained its ancient power over Polish hearts; a power never used but for some good and generous end.

The Emperor Alexander honored him with a long interview, and offered him an asylum in his own country. But nothing could induce Kosciusko again to see his unfortunate native land. In 1815 he retired to Soleure, in Switzerland; where he died, October 16, 1817, in consequence of an injury received by a fall from his horse. Not long before he had abolished slavery upon his Polish estate, and declared all his serfs entirely free, by a deed registered and executed with every formality that could insure the full performance of his intention. The mortal remains of Kosciusko were removed to Poland at the expense of Alexander, and have found a fitting place of rest in the cathedral of Cracow, between those of his companions in arms, Joseph Poniatowski, and the greatest of Polish warriors, John Sobieski.

MARQUIS DE LA FAYETTE*

By William F. Peck

(1757–1834)



Marie Jean Paul Roch Yves Gilbert Motier, Marquis de la Fayette,† one of the most celebrated men that France ever produced, was born at Chavaignac, in Auvergne, on September 6, 1757, of a noble family, with a long line of illustrious ancestors. Left an orphan at the age of thirteen, he married, three years later, his cousin Anastasie, Countess de Noailles. Inspired from the earliest age with a love of freedom and aversion to constraint, the impulses of childhood became the day-dreams of youth and the realities of maturer life. Filled with enthusiastic sympathy for the struggling colonies of America in their contest with Great Britain, he offered his services to the United States, and, though his enterprise was forbidden by the French Government, hired a vessel, sailed for this country, landed at Charleston in April,

† The condensed form of the name, when used apart from the title, is preferable to the open, for, though he employed the conventional style, De La Fayette, up to the time of the French Revolution, he then abandoned it, and always afterward wrote it as one word, Lafayette, which is now the family name.

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1777, and proceeded to Philadelphia. His advances having been treated by Congress with some coldness, by reason of the incessant application of other foreigners for commissions, he offered to serve as a volunteer and at his own expense. Congress may be excused for having taken him at his word; on July 31st it appointed him major-general, without pay the titular honor, which carried with it no command, being, perhaps, the highest ever given in America to a young man of nineteen years. Having accepted the cordial invitation of General Washington, the commander-in-chief, to live at his head-quarters and to serve on his staff, Lafayette was severely wounded in the leg at the battle of the Brandywine, on September 11th, and the intrepidity he displayed in that engagement was equalled by the fortitude that he evinced during the following winter, in which he shared the privations of the American army in the wretched camp at Valley Forge. His fidelity to Washington at this time, when the latter was maligned by secret foes and conspired against by Conway's cabal, cemented the friendship between those great men. Lafayette was soon afterward detached to take command of an expedition that was to set out from Albany, cross Lake Champlain on the ice, and invade Canada; but, on arriving at the intended starting-point, and finding that no adequate preparations had been made, he refused to repeat the unfortunate experiment of Montgomery and Arnold of two years before, and waited for suitable supplies to be sent to him before setting out. These came not, the ice melted in March, and he returned to Valley Forge, with the thanks of Congress for his forbearance in abstaining from risking the loss of an army in order to acquire personal glory. France having declared war against England, May 2, 1778, and at the same time effected an alliance with the colonies, Lafayette returned home in January, 1779; on his arrival at Paris he was lionized and fêted, and during his stay there he received from the United States Congress a sword with massive gold handle and mounting, presented to him in appreciation of his services and particularly of his gallantry at the battle of Monmouth, on June 28th, in the preceding year. The high reputation that he had acquired in America increased his influence at home to such a degree that he was able to accomplish the object of his mission and procure money and troops from the ministry of war. These followed him to this country in the following year, but little was accomplished thereby, D'Estaing, the commander of the fleet, being blockaded in the harbor of Newport, and Washington being unwilling to undertake the contemplated attack on New York, even with the assistance of the French military force, without naval co-operation. In February, 1781, Lafayette was sent with a division into Virginia, where he soon found himself arrayed against the British general, Lord Cornwallis. That distinguished officer, the best, perhaps, of all on that side of the conflict, expected to make short work of his youthful antagonist, but Lafayette, who had learned from Washington the art of skilful retreat combined with cautious advance, succeeded, after a long series of skirmishes, in shutting Cornwallis up in Yorktown. In September, the French fleet, under the Count de Grasse, appeared and landed a force of 3,000 men under the Marquis de St. Simon. Lafayette was urged to

make the assault at once and gain the glory of an important capture, but a feeling of honor, combined possibly with prudential considerations, impelled him to wait for the arrival of the main allied army under Washington and Rochambeau. They came a fortnight later, the investment was regularly made, and on October 14th Lafayette successfully led the Americans to the assault of one of the redoubts, while another was taken by the French under the Baron de Viomesnil. The surrender of Cornwallis, with his army of 7,000, took place on the 19th, which ended, practically, the American war of independence, though the final treaty of peace was not signed till January 20, 1783, the first knowledge of which came to Congress by a letter from Lafayette, who had returned to Europe in the meantime. Revisiting the United States in 1784, he was treated with great consideration by his old comrades in arms, and the next year he travelled through Russia, Austria, and Prussia, in the last of which he attended the military reviews of Frederick the Great in company with that renowned soldier.

From this time Lafayette's history is bound up with that of his country. Beginning by formulating plans for meliorating the condition of the slaves on his plantation in French Guiana, his philanthropic thoughts soon turned homeward. He saw France groaning under oppression and the people suffering from a thousand antiquated abuses. Some of these he succeeded in mitigating, in his capacity of member of the Assembly of the Notables, in 1787, but, as nothing of permanent value was accomplished by that body, he urged the convocation of the States General. In this assemblage, which met at Versailles, on May 4, 1789, he sat at first among the nobility, but when the deputies of the people declared themselves to be the National Assembly—afterward called the Constituent Assembly—he was one of the earliest of his order to join them and was elected one of the vice-presidents. On July 14th the Bastille was taken by the mob, and on the following day Lafayette was chosen commandant of the National Guard of Paris; an irregular body, partly military, partly police, having no connection with the royal army and in full sympathy with the people, from which its ranks were filled. On the 17th King Louis XVI. came into the city, where he was received by the populace with the liveliest expressions of attachment and escorted to the Hôtel de Ville, where Lafayette and Mayor Bailly awaited him at the foot of the staircase, up which he passed under an arch of steel formed by the uplifted swords of the members of the Municipal Council. Bailly offered to the king a tricolor cockade, which had been recently adopted as the national emblem, Lafayette, in devising it, having added white, the Bourbon color, to the red and blue that were the colors of Paris, to show the fidelity of the people to the institution of royalty. The king accepted the badge, pinned it to his breast, appeared with it on the balcony before the vast throng, and returned to Versailles with the feeling, on his part and that of others, that the reconciliation between all parties was complete and that the era of popular government had begun. Instead of that, the troubles continually increased, and Lafayette was placed in a most trying position, equally opposed to the encroachments of the destructionists and to the intrigues of the court, and longing as eagerly for the retention of the monarchy as for the estab-

lishment of the constitution. The brutal murder of Foulon, the superintendent of the revenue, and of his son-in-law Berthier, who were torn in pieces by the enraged populace on the 22d, in spite of the commands, entreaties, and even tears of Lafayette, so disgusted him that he resigned his command, and resumed it only when the sixty districts of Paris agreed to support him in his efforts to maintain order. On October 5th a mob of several thousand women set out from Paris to march to Versailles, with vague ideas of extorting from the National Assembly the passage of laws that should remove all distresses, of obtaining in some way a supply of food that should relieve the immediate needs of the capital, and of bringing back with them the royal family. The National Guard were urgent to accompany the women, partly from a desire to protect them in case of a possible collision with the royal troops, but still more to bring on a conflict with a regiment lately brought from the frontier, and to exterminate the body-guard of the king, the members of which had, at a supper given a few nights before, been so indiscreet as to trample the tricolor under their feet and pin the white cockade to their lapels. Lafayette did all in his power to prevent the march of the National Guard, sitting on his horse for eight hours in their midst, and refusing all their entreaties to give the word of command, till the Municipal Council finally issued the order and the troops set forth. Arrived at Versailles he posted one of his regiments in different parts of the palace, to protect it in case it were really attacked by rioters, and then, in the early morning, repairing to his head-quarters in an adjoining street, he threw himself on a bed, for a short season of necessary repose. Monarchical writers generally have reproached him for this act, calling it his "fatal sleep," the source of unnumbered woes, the beginning of the downfall; but it is difficult to see wherein he can justly be blamed for yielding, wearied out with fatigue, to the imperative demand of nature, after providing as far as possible for the preservation of order. Awakened in a few minutes by the report that the worst had happened, he hurried to the scene and found that the mob, having broken down the iron railings of the court-yard, had invaded the palace and massacred two of the body-guard, and that the lives of the king and queen were in instant peril. With characteristic courage, activity, and address he prevented the further effusion of blood, and the entire royal family, together with the Assembly, migrated to Paris the same day, escorted by the citizen soldiers and a turbulent mob both male and female. July 14, 1790, was memorable for the Oath of Federation, taken in the Champ de Mars, with imposing ceremonies, upon a platform of earth raised by the voluntary labors of all the citizens. Lafayette, as representative of the nation, and particularly of the militia, was the first to take the oath to be faithful to the law and the king and to support the constitution then under consideration by the Assembly. With a shout of affirmation from all of the National Guard, the taking of the entire oath by the president of the Assembly and the king, followed by a roar of assent from nearly half a million of spectators, and the joyful spreading of the news throughout the country by prearranged signals, the dream of peace and harmony came back again, as bright and as fleeting as the year before. Three days later the National Guard of

THE ARCH OF STEEL

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Photogravure Goupil & Cº

France, outside of the city, united in an address to Lafayette, expressive of their confidence in his ability and his patriotism, and regretting their inability to serve under him, for, by the terms of a law proposed by himself, the commander of the militia of Paris was to have no authority over other troops. In September the municipality made a strong appeal to him to revoke his declaration that he would accept no pay or salary or indemnity of any kind, but he refused fixedly, saying that his fortune was considerable, that it had sufficed for two revolutions and that it would be devoted to a third, if one should arise, for the benefit of the people. By the death of Mirabeau, April 2, 1791, the last chance of a compromise between the court party and the radicals was taken away. Two weeks later the royal family attempted to leave the Tuileries for St. Cloud, in order to pass the Easter holidays there and to hear mass in the royal chapel; but the populace blocked the way, and even a portion of the National Guard, in a state of semi-mutiny, threatened to interfere if the other battalions fired on the people. This, nevertheless, Lafayette offered to do, and to force a passage at all hazards, but the king positively forbade the shedding of blood on his account, and resumed his virtual imprisonment in the palace. Lafayette was so chagrined by the seditious behavior of his troops that he again threw down his commission, whereupon an extraordinary revulsion of feeling took place; the municipality and the citizens were terror-stricken lest universal anarchy should ensue, and even the National Guard, repentant of their disgraceful conduct, cast themselves at the feet of their general, joining their voices to those of others in entreating him to resume his office, which, after three days, he consented to do, upon promise of obedience in the future.

This was the meridian of Lafayette's career, when his popularity and his influence were at their height. Power we can hardly call it, for that implies some voluntary deed of assumption, and he always acted in obedience to others, to some authority constituted at least under the forms of law, or, in the absence of that, to the sovereign people. From this time difficulties thickened around him and he was constantly environed by suspicion and by intrigues of all kinds against his character and his life, but he never swerved from the line of his duty. Not one of the political parties gave him its entire confidence, and each in turn conspired against him, only to be baffled by the underlying conviction, on the part of the masses, of his supreme patriotism and integrity. After the flight of the king and his family, on June 20th, Lafayette was violently denounced in the Jacobin club as a friend to royalty, and accused of having assisted in the evasion; but the attempt to proscribe him in the Assembly failed utterly, and that body appointed six commissioners to protect him from the sudden fury of the people. The royal fugitives having been stopped at Varennes and brought back to the Tuileries on the 25th, he saved them, by his personal efforts, from being torn in pieces by the mob, but was compelled to guard them much more strictly than before. On July 17th a disorderly assemblage gathered in the Champ de Mars to petition for the overthrow of the monarchy, and, in the tumult that ensued on the appearance of the troops, Lafayette ordered a volley of musketry, whereby

the rioters were dispersed with a loss of several killed and wounded, but whereby, also, while that act of firmness elicited commendation from all lovers of order, occasion was given for further intrigues on the part of his enemies and the shattering of his influence among the lower classes. A momentary gleam of sunshine broke forth in September, when, the king having accepted the new constitution, Lafayette took advantage of the general state of good feeling thereby produced to propose a comprehensive act of amnesty for all offences committed on either side during the revolution, which was passed by the Constituent Assembly just before its final adjournment on the 30th. On that day he resigned, permanently, the command of the National Guard, and retired to his estate at Chavaignac, being followed by the most gratifying testimonials of public regard, among them a sword and a marble statue of Washington, presented by the city of Paris, and a sword cast from one of the bolts of the Bastille, given by his old soldiers. Contrary to his personal wishes, his friends and his patriotism persuaded him, in November, to stand as a candidate for the mayoralty of Paris, with the result that might have been foreseen, for Pétion, being supported both by the Jacobins and by the court party, was elected by a large majority. This defeat did not prevent Lafayette's appointment, a month later, to the command of one of the three armies formed to defend the frontier against an expected invasion of the Austrians, the rank of lieutenant-general being given to him, with the exalted honor of marshal of France. War was declared against Austria, April 20, 1792, and hostilities began, but even the active service in which he was engaged could not keep his thoughts from the political condition of the country, and on June 16th he wrote to the Legislative Assembly, which had succeeded the Constituent in the previous autumn, a letter in which he pointed out the dangers that menaced the nation and denounced the Jacobins as the faction whose growing power was full of peril to the state. Four days later the mob invaded the Tuileries and passed riotously through all the rooms, insulting in the grossest manner the royal family, who were compelled to stand before them and undergo this humiliation for three hours. On hearing of this event Lafayette hurried from his camp and appeared before the Assembly, entreating the punishment of the instigators of the outrage. His sublime audacity in thus opposing his own personality to the machinations of his enemies, and that, too, before a body already irritated by his unasked advice, paralyzed the fury of his adversaries, while his eloquence charmed the hearts of his hearers; but all was in vain, and the only result of this heroic action was that a decree of accusation was brought in against him, which was rejected by a vote of 406 to 224. Upon the massacre of the Swiss Guards, on August 10th, followed by the actual deposition and imprisonment of the king, Lafayette sounded his army to ascertain if they would march to Paris in defence of constitutional government, but he found them vacillating and untrustworthy His own dismissal from command came soon after: orders were sent for his arrest, and nothing remained for him but flight.

On August 19th he left the army and attempted to pass through Belgium on

his way to England, but he was captured by Austrian soldiers near the frontier. He protested that he no longer held rank as an officer in the army and should be considered as a private citizen; but his rights were not respected in either capacity, for he was not treated as a prisoner of war neither was he arraigned as a criminal. On the contrary, without any charges being preferred against him, and without the formality of a trial of any kind, he was immediately thrown into prison and was detained in various Belgian, Prussian, and Austrian jails and fortresses for more than five years, the last three being passed in close confinement at Olmutz. An unsuccessful attempt at escape increased the severity of his detention, and he nearly lost his life through the hardships and privations that he endured, till his wife and daughters came, in 1795, and voluntarily shared his incarceration. The only reason for the savage treatment that he received, unjustified by any forms of international, of military, or of criminal law, seems to have lain in the fact that he had been a member of the National Assembly and prominent in the constitutional struggle for liberty. A feeling of revenge, as mean as it was groundless—for he had done everything in his power to protect the dignity as well as the life of Marie Antoinette, the sister of the Austrian emperor—joined with a fear that other peoples might follow the lead of the French and overthrow monarchical institutions unless deterred by some world-shocking example, formed the mainspring of this atrocious procedure. Efforts were made in this country and in England to procure the release of the prisoner, but no governmental action was taken in that direction, the United States Congress declining to pass a resolution to that effect, so that President Washington was left alone in his unceasing attempts, by instructions to our ministers abroad and by a personal letter to the emperor, to repay some of the debt that he and the whole country owed to our adopted citizen. It was not till the successes of the French republican armies enabled General Bonaparte, at the instance of the Directory, to insist upon the liberation of Lafayette as one of the conditions of the treaty of Campo Formio, that he was discharged on September 19, 1797, the Austrian Government pretending that this was done out of regard for the United States of America. Passing into Denmark and Holland he resided in those countries for two years, when he returned to France only to receive from Bonaparte a significant message recommending to him a very quiet life, a piece of advice which, as it accorded with his own desires, he followed, settling down at Lagrange, an estate inherited by his wife, as his own property had been confiscated by the National Convention, which had succeeded the Legislative Assembly. True to the principles that he had always entertained, he cast his vote, in 1802, with less than nine thousand others, and in opposition to the suffrages of more than three-and-a-half millions, against the decree to make Bonaparte consul for life, writing after his name on the polling register the statement that he could not vote for such a measure till public freedom was sufficiently guaranteed. This insured the continued displeasure of the military despot, who revenged himself by refusing to Lafayette's only son, George Washington, the promotion that he had earned by his brilliant exploits in the army. President Jefferson's offer,

in 1803, of the governorship of the province of Louisiana, just after its purchase from France, was rejected by Lafayette, who continued in his retirement through the time of the empire and after the first restoration of the Bourbons, till the return from Elba, in March, 1815, of Napoleon, who used every exertion to conciliate him and win his support. All these overtures he declined, but, on the other hand, accepted an election to the popular branch of the Legislature, of which he was chosen vice-president. After the battle of Waterloo, on June 18th, Napoleon returned to Paris and proposed to his council the dissolution of the Chamber of Deputies and the assumption of absolutely dictatorial power; a desperate project which was frustrated only by the alertness, vigor, and energy of Lafayette, whose eloquent appeals induced the Legislature to compel the final abdication of the emperor, under the alternative threat of forfeiture and expulsion. Five commissioners, with Lafayette at the head, appointed by the chambers, proceeded to the head-quarters of the allied sovereigns, at Haguenau, to treat for peace; but, while negotiations were pending, the foreign armies pushed on toward the capital, and he returned on July 3d, to find that Paris had capitulated and was at the mercy of the conquerors, who dictated their own terms, forcibly dissolved the Corps Legislatif, and replaced Louis XVIII. on the throne. Lafayette retired to Lagrange, but was again elected, in 1817, a deputy, in spite of the strenuous opposition of the Government, and exerted his influence in favor of liberal measures, though with indifferent success. In 1824, on the invitation of President Monroe, he revisited this country, travelled through every State, was received with the highest honors by Congress (which voted him $200,000 and a township of land for his services), by legislatures, by colleges, by corporations of cities, by societies of all kinds, by his surviving comrades of the revolution, and by the whole nation; took part in the laying of the corner-stone of the Bunker Hill Monument June 17, 1825, and sailed for home in September, on the United States frigate Brandywine, which had been put at his disposal by the Government. Soon after his return to France he was re-elected to the Corps Legislatif, and served as a member for most of the remainder of his life. The stupid tyranny of King Charles X. having caused an outbreak of the Parisians in July, 1830, Lafayette unhesitatingly espoused the popular cause, and, though nearly seventy-three years old, accepted the command of the National Guard; after a conflict of three days the royal troops gave way, the king abdicated, to be succeeded by the Duke of Orleans as King Louis Philippe, and Lafayette had the satisfaction of contributing largely to the establishment of what he had advocated so strongly forty years before—a constitutional monarchy. He died at his home, in the country, on May 20, 1834, but his remains were taken to Paris for interment, and as the funeral train passed through the streets the lamentations on every hand attested the affection and the sorrow of the people. Few men have lived who present a figure so attractive to the eye of the student; fewer still, so prominent on the theatre of history, who will bear, with so little possibility of censure, the closest scrutiny, the severest judgment. His actions were visible to all the world, his motives were transparent, his sentiments were unconcealed, his

life was blameless. To the physical endowments of dignity of person and resistless charm of manner he added all desirable qualities of head and heart, a dauntless courage, an enthusiasm beautiful and yet consistent, a sublime patriotism, a disinterested generosity. If, with all these, he seems to have failed of achieving the highest success, it was because not of what he lacked but of what he possessed in the fullest degree, a lofty integrity that forbade him to pander to the passions of the mob, a supreme regard for the rights of the community and of the individual. He might have snatched the sovereign power, but in doing it he would have lost his self-respect. In place, then, of glittering success, he obtained the quiet admiration of mankind and the loving gratitude of two nations.

Wm. F. Peck.

CHARLOTTE CORDAY*

By Oliver Optic

(1768–1793)

The despotism of Louis XIV. and the exhaustion of the finances by his wars and his reckless extravagance had reduced France to a very unhappy condition. His son, the Grand-Dauphin, died four years before his father, and his grandson, the Duke of Burgundy, a year later. Louis the Great was therefore succeeded by his great-grandson, Louis XV. During this reign the nation continued on the decline. He was followed by his grandson, Louis XVI., a better man than his immediate predecessor, but too weak to carry out the reforms necessary to restore the prosperity of the nation. Voltaire, Rousseau, Montesquieu, and many other writers, as well as the influence of the American Revolution, had fostered democratic ideas among the people, for the government was reeking with abuses.

The parliament had not assembled for three-quarters of a century; but representatives of the people met in 1789, in spite of the opposition of the king. The extreme of license followed the extreme of absolutism. The king opposed the Constituent Assembly, for this body changed its name several times, till the political conflict ended in the death by the guillotine of Louis XVI., and later by the execution of his queen, Marie Antoinette. For every two hundred and fifty of the gross population there was a member of the nobility who was exempted from the payment of any land tax, though this kind of property was almost exclusively in their possession, and from many other taxes and burdens,

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which all the more heavily weighed down the great body of the people. The latter had a long list of genuine grievances which the king and his advisers refused to remedy.

The revolution became an accomplished fact in the capture and destruction of the Bastille, on July 14, 1789, which day is still celebrated as a national holiday in France. It had been for hundreds of years a prison for political offenders, and was regarded by the people as the principal emblem and instrument of tyranny. The population became as intemperate as their rulers had been, thousands perished by the guillotine, and the reign of terror was established. The National Convention proclaimed a republic; but this body was divided by conflicting opinions, and had not the power to inaugurate their ideal government. Blood flowed in rivers, and the reaction was infinitely more terrible than the tyranny which had produced it.

The Convention was divided into at least four parties, though the lines which separated them were not very clearly defined. The Jacobins were the most prominent, and the most radical. It had its origin in the Jacobin Club, formed in Versailles, taking its name from a convent in which it met. This organization soon spread through its branches all over France, and its party was the most violent and blood-thirsty in the convention. Danton, Robespierre, Marat, Desmoulins, and other desperate leaders were of this faction.

The Girondists were next in numbers and influence. They were the moderate republicans of the time, though at first they were inclined to accept the constitution, and favor a limited monarchy. Its name came from the earliest leaders of the party who were representatives from the department of the Gironde. Its members labored to check the violence and bloodshed of the times, and might be called the respectable party of the period. Unfortunately they were in the minority, and all the members of the party in the Convention who did not escape, were arrested, convicted, and guillotined.

The Montagnards (mountaineers) or Montagne (Mountain) was the term applied to the Democrats holding the most extreme views, though its members were also Jacobins and Cordeliers. Among them were the most blood-thirsty, unreasonable, and intolerant men of the time, for Danton, Robespierre, Marat, St. Just, and others of that stamp, affiliated with them. They took their name from the fact that they were grouped together in the uppermost seats of the chamber of the Convention. The Cordeliers was hardly more than another name for a club of the same men, so called from the chapel of a Franciscan monastery where they held their meetings.

Jean Paul Marat was one of the most prominent personages of the Revolution, whose infamy will continue to be perpetuated down to generations yet to come, with other of his red-handed associates. He was a Frenchman, though he spent considerable time in Holland and Great Britain, where he practised medicine, having studied the profession at Bordeaux. He made some reputation as a political writer, and in Edinburgh obtained a degree. It is believed that he was convicted for stealing, and sentenced to five years imprisonment at Oxford under

CHARLOTTE CORDAY AND MARAT

BY

PAUL-JACQUES-AIMÉ BAUDRY

CHARLOTTE CORDAY AND MARAT

BY

PAUL-JACQUES-AIMÉ RAUDRY

PAUL-JACQUES-AIMÉ BAUDRY.

Photogravure Ludovic Baschet

several *aliases*. Perhaps he was sincere in his opinions, and he threw himself vigorously into the work of the Revolution in Paris, issuing inflammatory pamphlets, which he caused to be printed and circulated secretly. He established an infamous journal, attacking the king and all his supporters, and especially the Girondists, whose moderation disgusted him. His virulence caused him to be intensely hated, and twice he was compelled to flee to London, and once to hide in the sewers. In the latter he contracted a loathsome disease of the skin which soon began to eat away his life ; and his sufferings from it intensified his zeal and his hatred.

Marat was elected to the Convention as a delegate from Paris. Perhaps he was to a greater degree responsible for the September massacre than any other man. While he was dying of his malady he was urging on his fanatical measures, and declared that most of the members of the Convention, Mirabeau first, ought to be executed. His most virulent hatred was directed against the Girondists, whose execution he advocated with all the venom of his nature. Though he could write only when seated in a bath, he continued to hurl his invectives against them, impatient for the guillotine to do its gory work upon them.

The avenger was at hand. Charlotte Corday d'Armont was the granddaughter of Corneille, the great tragic poet of France. Though of noble descent, she was born in a cottage, for her father was a country gentleman so poor that he could not support his family. His daughters worked in the fields like the peasants, till he was compelled to abandon them. Then they obtained admission to a convent in Caen, where they were received on account of their birth and their poverty. The library furnished Charlotte abundant reading matter, and she read works on philosophy, though she also rather inflated her imagination by the perusal of romances, which had some influence on her after life.

When monasteries and convents were abolished, she was turned loose upon the world ; but her aunt, as poor almost as her father, took the young woman, now nineteen years old, to her home in Caen. Charlotte had developed into a beautiful girl, rather tall, honest, and innocent. She had imbibed republican sentiments from her father in spite of his nobility, and Caen was the head-quarters of the Girondists. She was familiar with the details of the struggle between the Jacobins and the Girondists, and they inspired her with an intense feeling against the persecutors of her people, as she regarded the latter. The members of that party who had been driven from Paris instructed her. She was a woman ; but if she had been a queen she had the nerve to rule a nation and fight its battles.

A tremendous purpose took possession of her being. It was not prompted by the spirit of revenge. She was mistaken, but she believed that the removal of Marat was the remedy for the evils of the time ; and this became the work of her life, upon which she entered, fully conscious that her path ended at an ignominious grave. She had an admirer in a young man by the name of Franquelin, and though she favored him she sacrificed her attachment to what she regarded as a lofty, even a sublime duty. She had the means to proceed to Paris and she

went by the coach. She deceived her aunt, her father, and her sisters with the statement that she was going to England in search of remunerative employment. She went to a hotel in the great city which had been recommended to her in Caen.

A friend had given her a letter of recommendation to Duperret, a Girondist deputy, by the aid of which she hoped to get into the presence of Marat. She had arranged a plan for the assassination of the brawling fanatic, and it was to take place at the celebration of the anniversary of the destruction of the Bastille, July 14th, on the Champ de Mars. She desired to do the deed as publicly as possible, not to make it sensational, but in order to produce the stronger impression upon the minds of the people. The postponement of the celebration, for the suppression of the rebellion among the Vendeans, prevented the execution of her first plan, and she then decided to strike down her victim in his seat at the "summit of the mountain," in the midst of the victim's accomplices. Then she learned that Marat was confined to his lodgings by his malady. She promptly determined to confront him in his own home.

She wrote a note to him, professing to be a sufferer at the hands of the Girondists, asking for an appointment at his house. He made it, but was unable to keep it. She wrote another note, and then went to the house in the Rue de l'École de Medecine, now a part of the Boulevard St. Germain. The woman with whom Marat lived refused to admit her, and she crowded up a short stairway. Her intended victim heard the altercation, and suspecting it was the person who had sent him two notes, he called out to Catherine Everard to admit her. Charlotte had visited the Palais Royal and purchased a knife, which was concealed in her bosom in readiness to do the deed.

Marat, though at the height of his pernicious influence, lived in mean and squalid apartments, in a sort of pride of poverty as "the friend of the people." In spite of his disease, which compelled him to work in a bath, he was always busy. The room was littered with papers and pamphlets. He was only five feet in height, with a naturally disagreeable face, increased by his malady. At the very time his visitor entered his den, he was making out on a board before him a list of Girondists to be executed. She would not look at him, but she told him a story she had invented, and gave him the names of Girondist refugees at Caen; to which he replied as he wrote them down, that "they should have the guillotine before they were a week older."

At these words, as though they had steeled her arm, she drew the knife from her bosom, and with superhuman power, plunged it to the hilt and to the heart of Marat. He called for help and then expired. Assistance came, and the house was thronged with National Guards and policemen. They were necessary to save the murderess from the fury of those who forced their way into the house. She was arrested, and conveyed in the same carriage in which she had come to the Conciergerie. All Paris groaned and howled.

She had the form of a trial, and the guillotine quickly followed it. Her fortitude did not forsake her at any time, and she died as firmly as any martyr ever

went to the stake. Her beauty and her heroism excited the sympathy of the crowd, but they could not save her. She was a mistaken heroine, but her courage and fortitude were sublime.

William T. Adams

MADAME ROLAND*

By Ella Wheeler Wilcox

(1754–1793)

France has produced many remarkable women; perhaps no other country can boast such an array of illustrious names; they shine from the pages of French history like fixed stars from the firmament. Among them, down the long vista of a hundred years, brilliant and beautiful, shines the name of Madame Roland, the spirit of the great French Revolution personified.

Striking beauty, great genius, and wonderful courage in the hour of martyrdom, rendered this woman an unusual character in an unusual epoch. Surrounded by deceit, she was honest and fearless. In the midst of immorality and license, she was pure, and brave enough to resist temptation which came from without and from within, and she went to the scaffold with an untarnished name and soul.

Manon Philipon, as Madame Roland was known in her childhood, was born in Paris in the year 1754. Her father was a worker in enamel, who thrived well enough in his art when he was content to toil at it, but a restless spirit of speculation led him into ventures which brought him neither profit nor renown.

Manon's beauty was a direct inheritance from both father and mother. Gratien Philipon was a handsome man, and vain and frivolous as he was handsome; but his beautiful wife was serious-minded, and much the superior of her husband in intellect as well as morals. Of seven children born to this couple, only one lived—Manon, the subject of our sketch—who inherited the combined

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beauty of both parents, with the rectitude and high ideals of the mother. But there lies no explanation of inheritance from either father or mother to make us understand how the child of these common people became at nine years of age a student of Plutarch, Tasso, and Voltaire, and a philosopher at the age of eleven. It requires a deeper law than that of heredity to explain these things.

At ten, Manon developed a strongly religious tendency, which was fostered, no doubt, by daily studying the "Lives of the Saints." While reading the accounts of martyrs who had died at the stake rather than resign their faith, the child often regretted that she had not lived in those "good old days," so happy a thing it seemed to her to die for one's principles. This privilege was granted her in after-years, strangely enough; and she proved as courageous in reality as she had in childhood imagined herself capable of being under similar circumstances.

Manon's religious feelings were culminated by a request made to her mother, in a paroxysm of tears, that she might be placed in a convent to prepare herself for her first communion; accordingly, she was taken to the Convent of the "Sisters of the Congregation" in May, 1765, when she was eleven years old. Side by side with this nunnery, where the precocious child passed one of the happiest epochs of her life, stood the prison which was to immure her in later years. Should such a circumstance and situation be unfolded in the pages of fiction, we would call it strained and unnatural.

During the year Manon passed in the convent, she made the acquaintance of two sisters, Henrietta and Sophie Cannet, who were allied to the nobility; and she afterward attributed her facility in writing to the correspondence with the younger of these sisters, which continued without interruption over more than a decade of years. In her memoirs, written under the shadow of the guillotine, she says, "In the gloom of a prison, in the midst of political storms, how shall I recall to my mind, and how describe, the rapture, the tranquillity I enjoyed at that period; but when I review the events of my life, I find it difficult to assign to circumstances that variety and that plenitude of affection which have so strongly marked every point of its duration, and left me so clear a remembrance of every place at which I have been."

After she left the convent, she found her passion for reading unabated, and as her father's library was limited, she was obliged to borrow and hire books; from these she made copious extracts and abstracts which formed her valuable habit of reflection upon what she had read.

Her first feelings of contempt and bitterness toward the aristocrats were roused by the air of condescension which the Cannets exhibited to her in her occasional visits to Sophie. They were stupid and arrogant people, but they made her realize that the daughter of an artisan was not on equal footing with people allied to the nobility, albeit she was a prodigy of beauty, learning, and talent, and they the dullest of beings.

"I endeavored," she says, "to think with hope that everything was right, but my pride told me things were ordered better in a republic." So, as early as at

the age of fourteen, we find this remarkable being philosophizing upon republics, and taking part in mind against the evils and injustice fostered by monarchies.

Madame Roland wandered from prescribed creeds, and became a liberal in her religious ideas. She has been called an Atheist, but every line she writes, and her life of self-sacrifice, disprove this assertion. Her "one prayer," to which she says she confined herself, is, to my mind, sublime with beautiful and practical religion.

"O Thou who hast placed me on the earth, enable me to fulfil my destination in the manner most conformable to the Divine will, and most beneficial to my fellow-creatures."

I can imagine no more perfect religious faith, no more complete submission to, and acknowledgment of, a Supreme Power than this prayer contains. It strikes me as far more devout and respectful than the prayers of many people who endeavor to dictate to God and direct Him what to do and what not to do, what to bestow and what to withhold.

She writes of her religious agitations with great reluctance to Sophie Cannet, fearful of disturbing the serenity of her friend's convictions; but she continued to conform to her mother's religious ideas during that good woman's life, and even afterward she kept up the forms of Catholicism for the sake of a valued family servant who was devoted to her.

This delicate consideration of the feelings of others has been mistaken by some bigoted minds for deceit or vacillation on the part of Madame Roland; as if such a being were capable of either.

We owe all our knowledge of her early private life to the voluminous correspondence between her and Sophie Cannet; to this friend she wrote those long, journal-like letters, in which one young girl often pours out the inmost secrets of her heart and soul to another; but, unlike the letters of the ordinary girl, Manon's contained criticisms of the books she had read, and discussions of philosophical subjects, which bear evidence to her wonderful precocity of thought and feeling in her "teens."

Originality, unselfishness, genius of the rarest order, are all displayed in these letters; already had her mind grasped some great truths which it requires the average philosopher half a century to discover, when at seventeen, she says, "Man is the epitome of the universe. The revolutions of the world without are an image of those which take place in his own soul."

Upon the news of the mortal illness of Louis XV., she writes to Sophie this strongly humanitarian passage: "Although the obscurity of my birth, name, and position seem to preclude me from taking any interest in the government, yet the common weal touches me in spite of it. My country is something to me, and the love I bear it is unquestionable. How could it be otherwise when nothing in the world is indifferent to me? A love of humanity unites me to everything that breathes. A Caribbean interests me; the fate of a Kaffir goes to my heart. Alexander wished for more worlds to conquer. I could wish for more to love."

In spite of her philosophy, her seriousness, and her learning, however, Manon Philipon was a girl, and a charming one; and we learn in her letters to Sophie how she was pestered with lovers of low and high degree, during her long maidenhood. I might better say with proposals for her hand, since, as we know, French custom does not permit the "love-making" which American girls consider their natural prerogative.

Manon was so beautiful, brilliant, and magnetic, that when she went out to promenade with her father, she was greeted with admiring glances and remarks; and from the fruit vender of whom she made occasional purchases, and the butcher who served the family with joints, to dancing and drawing masters, up along the line to merchants, professional, and literary men, she seemed to fascinate and attract with no effort on her own part.

Each one in turn asked for her hand and was rejected; and a host of others followed, to meet a similar fate, until her father threatened to marry her to the first stranger who crossed his portal, whether either one wished it or no. She says in her memoirs, "The respectable character of my mother, the appearance of some fortune, and my being an only child, made the project of matrimony a tempting one to a number of persons who were strangers to me. The greater part, finding it difficult to obtain an introduction, adopted the expedient of writing to my father. These letters were always shown to me. I wrote the answers, which my father faithfully copied. I was much amused at acting the part of my own father, and dismissed my suitors with dignity, leaving no room for resentment or hope. Here began to break out those dissensions with my father which lasted ever after. He loved and respected commerce, I despised it; and he was much concerned at my rejection of suitors who possessed any fortune."

After the death of Madame Philipon, which occurred in her daughter's twenty-first year, Manon's life at home became almost unbearable. Her extreme grief impaired her health, and anxiety and mortification were added by the excesses and frivolous extravagances into which her father plunged. He formed associations with people of bad character, and took to gambling. Manon strove to make herself an agreeable companion, and to entertain him at home, but the attempt was futile. She filled her lonely hours with study, and with writing letters to Sophie. One day a tall, thin gentleman, bald and yellow, past forty, and looking older, presented a letter of introduction from Miss Cannet.

It was M. Roland, an austere philosopher, of an ancient family, to whom Sophie had often referred. Manon admired his intellect and his respectability; and when, after some two or three years, he made an offer of marriage, she was ready to accept; but M. Philipon bluntly and insolently refused his consent, through a strong personal dislike which he had conceived for the severe moralist and philosopher.

Manon could not marry against her father's wishes, but she could leave the home now so distasteful to her. She had saved only a small sum from her mother's fortune, amounting to about one hundred dollars per year. With this, she

retired to the Convent of the Congregation, and shut herself up with her books, and received only her old friends.

M. Roland, for whose sake she had taken so decisive a step, was far from an ardent lover in his conduct at this juncture. He wrote her affectionately, but he made no reference to his proposal of marriage until six months had passed. Then he came to Paris, had an interview through iron gratings, and expressed himself determined to make her his wife. Since she had left her father's roof, she was at liberty to accept his somewhat tardy proposal, and she emerged from the convent to become Madame Roland.

We have seen that M. Roland was not an ardent lover, and it is readily understood that this beautiful, intense girl, in the very prime of young womanhood, was not in love with him. She felt only esteem for his virtues, and admiration for his intellect. But she was twenty-five years old, and virtually homeless; of all the score of men who had sought her hand in marriage, no one had ever stirred her heart, and she married, believing, no doubt, that this cold regard and high admiration which the character of M. Roland elicited, was all that she could feel for any man.

It was not until the thunders of the Revolution shook the world, that her heart awoke to real passion; and even then, in a situation where hundreds of women who have professed greater religious fervor, have fallen, she conquered herself, and virtually died to protect her husband's life.

During the first year of their marriage, the Rolands lived in Paris. Manon had imagined a happy association with her friends, the Cannets; but her husband was morbidly jealous of these friends, and extracted a promise from her that she would see them as little as possible. She became his amanuensis and secretary, and scarcely ever left his side.

During the next ten years we find her passing the greater part of her time in the Clos de la Platière, an ancient and humble country-seat belonging to the Roland family. Here, with her taxing domestic duties, the exactions of her husband, the care of her child Eudora, the tyrannies of her aged mother-in-law, this wonderful woman had little opportunity for the exercise of her talents.

It seems strange to think of this beautiful martyr, whose name is a synonym for all that is grand and heroic, passing the best years of her womanhood in preparing dishes for the appetite of a dyspeptic husband, in looking after house-linen, and arranging lessons for a child. Matilda Blind says "This affects one with something of the ludicrous disproportion of making use of the fires of Etna to fry one's eggs by."

Yet Madame Roland performed these and less agreeable duties as cheerfully and as perfectly as she had performed her chosen tasks in the convent years before. Women doctors were not known in those days, but the genius of Madame Roland embraced a knowledge of medicine with other things; and she often went three leagues to relieve a sick peasant, and was ever ready to sacrifice herself for the good of others.

There was very little happiness for her in the companionship of her hus-

band. He was twenty-two years her senior, and possessed an imperious temper and an exacting nature. But the most ardent wife could not have better performed her duty to the most lovable of husbands.

Naturally democratic in her feelings and sympathies, Madame Roland took the keenest interest in the progress of the Revolution; from her quiet retreat she studied its leading members, and when, in 1791, her husband was chosen deputy to the Constituent Assembly, she accompanied him to Paris, and their apartments became the rendezvous for such men as Brissot, Buzot, Danton, Robespierre, Pétion, and many more, who met to confer with one another and to exchange ideas and suggestions. Madame Roland sat apart with her embroidery and listened. Of these meetings she speaks thus in her "Memoirs": "Good ideas were started and excellent principles maintained; but there was no path marked out, no determinate point toward which each person should direct his views. Sometimes for very vexation, I could have boxed the ears of these philosophers."

Had not her sex precluded this silent spirit of the Girondists from taking part in these counsels, if, instead of acting second hand through her husband, she could have taken the lead, as her genius, perception, honesty, and courage entitled her to do, who knows that she might not have averted the disasters which befell the party through its dissensions.

In March, 1792, Roland was elected minister of the interior; and Madame Roland presided over the establishment that had been sumptuously fitted up for Madame Necker. Roland became the idol of the patriotic party, and was enchanted with his excellent position. He urged upon King Louis XVI., in whom he reposed great faith, the necessity of a decree against the priesthood, and the establishment of a camp in the suburbs of Paris. Louis demurred, Roland insisted in the famous letter written by his wife, and placed in the king's hands June 11th. This letter became immensely popular. The Assembly ordered it to be printed and copies sent to all departments, together with expressions of national regret at the discharge of Roland and his friends, which the letter caused. But they were recalled to office after the dreadful August 10th.

Twice a week Madame Roland gave a dinner to fifteen of her husband's colleagues, with whom he wished to converse. No other lady was present. The Girondists were at the apex of society, and Madame Roland was the life and impetus of the party. She endeavored to infuse its members with her hatred of false pride and old prejudices, and with her desire to establish a liberal democracy. Always enthusiastic, and vexed with the lack of unity and direct purpose in the Assembly, she was over-zealous in some of her suggestions.

Among the brilliant men whom she entertained at these dinners, was one, young, handsome, elegant, and refined, whose many manly qualities woke in her heart that long-delayed passion which a nature so ardent must sometime feel. This man was Buzot; and he was as irresistibly drawn to this beautiful, brilliant woman as the magnet to the steel.

Madame Roland was at this time thirty-eight years old; her brilliant color

and her open expression made her look much younger, and her tall, finely developed form, her splendid eyes and engaging smile, charmed and attracted all who came near her. But though domestic life and morality were held at the lowest possible value in those chaotic days, and each man made a law for himself, Madame Roland never wavered in her loyalty and devotion to the man whose name she bore. Only through her remarkable letters written to Buzot from her prison cell, and never made public till 1863, does the glory and intensity of her hopeless passion display itself.

From the very first, Madame Roland had distrusted Danton. It was not long before her intuitions proved correct, for Danton soon showed his jealousy and dislike of the minister, whom he found too honest to tamper with. He feared, too, the penetration, frankness, and genius of Roland's wife. Men who saw the insidious, selfish qualities of Danton, began to cultivate and conciliate him out of fear of his enmity.

Robespierre, whom Madame Roland had at first believed in as an honest friend to liberty, became an ally of Danton and Marat, and Roland soon realized that it was not the monarchists he had to contend against, but the new party headed by these dissenting Girondists, who were savage with a thirst for human blood.

The Rolands were accused of trying to establish an aristocracy of talent on the ruins of a monarchical aristocracy; their semi-weekly dinners were represented as sumptuous feasts where, like a new Circe, Madame Roland strove to corrupt the unfortunates who partook of her banquets.

She was called before the Convention December 7th, to listen to the charges against her; her eloquence won the admiration of even her enemies. But her safety was in danger, and she was obliged to sleep with a pistol under her pillow for fear of the outrages of desperadoes who lurked about her house.

The strife between the two parties grew more bitter, and the downfall of Roland had been determined upon by his savage opponents, once his fawning friends and colleagues. An attempt was made to arrest Roland by six armed men, deputies of the Insurrectionists. He replied that he did not recognize their authority, and refused to follow them. Madame Roland at once set off for the Tuileries, where the Insurrectionists, more cruel and bloodthirsty than the deposed Monarchists, were in session. At the door the sentinels forbade her to enter. Obliged to return home without having been enabled to address the Convention, as she hoped to do, she found that her husband had taken refuge in the house of a friend.

She sought him out, embraced him, and returned once more to the Tuileries in another vain hope of arousing their former friends to resolute action. But she was obliged to return to her apartment in the evening, without having accomplished anything. Late that night she was torn from her child and her home, and cast into the Prison of the Abbaye, from which she was set at liberty a month later, and wild with happiness, allowed to reach her own door; but as she attempted to enter she was again seized and conveyed to the Prison of Sainte Pélagie. The respite had only been given in malice to render her second incarceration more bitter.

Under the same roof were murderers and women of the town; and in the morning, when the cell-doors were opened, the scum of the earth, as one authority tells us, collected in the corridor. On each side of this corridor (the only place where the prisoners could take exercise) were small cells, and one of these, separated only by thin walls from the most depraved beings, whose vile language was constantly audible to her ears, this refined and elegant woman was forced to occupy. She suffered acutely from this proximity to depravity and vulgarity at first; but ere long she transformed the vicinity in which her cell was situated "from an inferno to an oasis of peace." When she walked in the corridor, where at first she was pointed at, abused and reviled, she was now surrounded by wretched beings who clung to her skirts and regarded her as a divinity. Her sweet voice soothed brawls, her words of courage inspired the most hopeless. Everybody loved her, everybody desired her acquittal.

Meantime she was writing her famous "Memoirs," and the touching letters to her husband, her child, and to Buzot. After an imprisonment of more than six months, she was finally called before the judge and the prosecution, and accused of being the wife of Roland, the conspirator, the friend of his accomplices. Twenty-one Girondists had already been executed, and she could not hope to escape. She was condemned to death as guilty of traitorous relations with conspirators. She heard the sentence proudly, and replied, "You consider me worthy to share the fate of the great men whom you have assassinated. I shall try to carry to the scaffold the courage they have shown."

Robespierrre signed her death-warrant. He had been her friend, guest, and correspondent. She had helped him when he was unknown, defended him when he was in need of a defender. But he sent her to the scaffold; and on November 9, 1793, the tumbril came to convey her to the guillotine. It had taken many others on that same day; and now her only companion on that fatal ride was a trembling old man named La Marche. He wept bitterly, but Madame Roland cheered him with words of courage and strength.

When they arrived at the Place de la Concorde, she begged the executioner to permit the "etiquette of the scaffold" to be waived, and to allow La Marche to die first, that the sight of her death might not accentuate his fear and misery. So to the last moment of her life she was true to her religion of thoughtfulness for others.

Beautiful, self-possessed, and calm, she stood upon the scaffold in the pride of her womanhood, and spoke those last immortal words as she lifted her eyes to the statue of Liberty, "O Liberty, how many crimes are committed in thy name."

Then the axe fell, and the assassins of the Revolution had added another victim to their list. Seven days after this event, M. Roland committed suicide by stabbing himself through the heart.

MARIE ANTOINETTE

By Mrs. Octavius Freire Owen

(1755–1793)

Maria Theresa, the Empress of Austria, was not highly educated; and she was incapable of directing the studies of her children, although by precept and example she laid the foundation of characters, all of which became more or less remarkable. Marie Antoinette, her youngest child, was perhaps the most neglected. She once innocently caused the dismissal of her governess, through a confession that all the letters and drawings shown to her mother, in proof of her improvement, had been previously traced with a pencil. At fifteen her knowledge of Italian, studied under Metastasio, was the only branch of her education which had been fairly attended to, if we except considerable conversance with the "Lives of the Saints" and other legendary lore, the favorite fictions of monastic compilers. Nature had, nevertheless, done much for the young archduchess; she possessed great facility for learning, and was not slow in taking advantage of opportunities for improvement when they were afforded. In person she was most attractive. "Beaming with freshness," says Madame Campan, "she appeared to all eyes more than beautiful. Her walk partook at once of the noble character of the princesses of her house and of the graces of the French; her eyes were mild, her smile lovely. It was impossible to refrain from admiring her aërial deportment; her smile was sufficient to win the heart; and in this enchanting being, in whom the splendor of French gayety shone forth, an indescribable but august serenity—perhaps, also, the somewhat proud position of her head and shoulders—betrayed the daughter of the Cæsars." Such, according to her affectionate chronicler, appeared Marie Antoinette, when her nuptials were celebrated at Versailles with the Dauphin of France.

Superstitious minds discovered fatal omens from the earliest years of the hapless dauphiness. She had begun ill by first drawing breath upon the very day of the earthquake of Lisbon; this made a great impression on the mother, and later

upon the child also. Another incident was not less discouraging: the empress had "protected a person named Gassner," who fancied himself inspired, and affected to predict events. "Tell me," she said to him one day, "whether my Antoinette will be happy?" At first Gassner turned pale and remained silent, but, urged by the empress, and dreading to distress her by his own fancies, he said, equivocally, "Madame, there are crosses for all shoulders." Goethe notices that a pavilion erected to receive Marie Antoinette and her suite in the neighborhood of Strasburg was lined with tapestry depicting the story of Jason, "the most fatal union" on record; and a few days later, when the young queen arrived from Versailles to witness the rejoicings of the people upon her marriage, she was compelled to fly, terrified, from a scene remarkable not for festivity and happiness, but for the variety and horror of its accidents. These circumstances threw a gloom over the prospective triumphs of the impressionable bride; but her nature and age were alike favorable to vivacity, and she shook off the morbid influence.

Something of her mother's wise advice to her as to the course she should follow in her new position has been preserved in the following letter:

"My Dear Daughter:

". . . Do not take any recommendations; listen to no one, if you would be at peace. Have no curiosity,—this is a fault which I fear greatly for you; avoid all familiarity with your inferiors. Ask of Monsieur and Madame de Noailles, and even exact of them, under all circumstances, advice as to what, as a foreigner and being desirous of pleasing the nation, you should do, and that they should tell you frankly if there be anything in your bearing, discourse, or any point which you should correct. Reply amiably to every one, and with grace and dignity; you can if you will. You must learn to refuse. . . . After Strasburg you must accept nothing without taking counsel of Monsieur and Madame de Noailles; and you should refer to them every one who would speak to you of his personal affairs, saying frankly that being a stranger yourself, you cannot undertake to recommend any one to the king. If you wish you may add, in order to make your reply more emphatic, 'The empress, my mother, has expressly forbidden me to undertake any recommendations.' Do not be ashamed to ask advice of any one, and do nothing on your own responsibility. . . . In the king you will find a tender father who will also be your friend if you deserve it. Put entire confidence in him; you will run no risk. Love him, obey him, seek to divine his thoughts; you cannot do enough on this moment when I am losing you. . . . Concerning the dauphin I shall say nothing; you know my delicacy on this point. A wife should be submissive in everything to her husband, and should have no thought but to please him and do his will. . . . The only true happiness in this world lies in a happy marriage; I know whereof I speak. Everything depends on the wife if she be yielding, sweet, and amusing. . . . I counsel you, my dear daughter, to reread this letter on the twenty-first of every month. I beg you to be true to me on this point. My

only fear for you is negligence in your prayers and studies; and lukewarmness succeeds negligence. Fight against it, for it is more dangerous than a more reprehensible, even wicked state; one can conquer that more easily. Love your family; be affectionate to them—to your aunts as well as to your brothers-in-law and sisters-in-law. Suffer no evil-speaking; you must either silence the persons, or escape it by withdrawing from them. If you value your peace of mind, you must from the start avoid this pitfall, which I greatly fear for you knowing your curiosity. . . . "Your mother,

"MARIA-THERESA."

The grand annoyance Marie Antoinette experienced upon her entrance into the French Court, was the necessity of observing a system of etiquette to which she had been unaccustomed, and soon pronounced, with girlish vehemence, insupportable. Barrière copies a ridiculous anecdote in illustration of this from the manuscript fragments of Madame Campan: "Madame de Noailles" (this was the first lady of honor to the dauphiness) "abounded in virtues; I cannot pretend to deny it. Her piety, charity, and irreproachable morals rendered her worthy of praise, but etiquette was to her a sort of atmosphere; at the slightest derangement of the consecrated order, one would have thought she would have been stifled, and that life would forsake her frame. One day I unintentionally threw this poor lady into a terrible agony. The queen was receiving I know not whom — some persons just presented, I believe; the lady of honor, the queen's tire-woman, and the ladies of the bed-chamber were behind the queen. I was near the throne with the two women on duty. All was right; at least, I thought so. Suddenly I perceived the eyes of Madame de Noailles fixed on mine. She made a sign with her head, and then raised her eyebrows to the top of her forehead, lowered them, raised them again, then began to make little signs with her hand. From all this pantomime, I could easily perceive that something was not as it should be; as I looked about on all sides to find out what it was, the agitation of the countess kept increasing. The queen, who perceived all this, looked at me with a smile. I found means to approach her Majesty, who said to me in a whisper: '*Let down your lappets, or the countess will expire.*' All this bustle arose from two unlucky pins, which fastened up my lappets, while the etiquette of costume said '*Lappets hanging down.*'"

To the Countess de Noailles Marie Antoinette speedily gave the name of Madame l'Etiquette; this pleasantry the object of it could pardon, not so the French nation. The avowed dislike to ceremony manifested by the lively little dauphiness, her desire to substitute the simple manners of her native Vienna for the stately formality of Versailles, displeased more than her genuine condescension and affability attracted. Early also in her married life, to beguile the heavy tedium of their evenings, she instituted a variety of childish games which became talked of and condemned; she liked theatrical representations, and persuaded her two young brothers-in-law, with the princesses, to join her in performing plays, and though they were kept secret for a time, she suffered for her innocent contri-

vances in public opinion. It must be remembered that Marie Antoinette had no sincere friends upon her arrival in France, except the Duc de Choiseul and his party, and his disgrace prevented her deriving much benefit from the man who had first negotiated her marriage. The house of Austria was looked upon with dislike and doubt; nor were these, even in the case of the young dauphin's aunt, Madame Adelaide, made a matter of concealment. Thus, at her entrance upon public life, Antoinette was met with cynicism and prejudice, and unfortunately her own conduct rather increased than quieted the insidious voice—the "*bruit sourd*"—of both.

Louis XV. had manifested from the first great pleasure in the society of his grandson's bride. After dining in his apartment at the Tuileries, upon her arrival at Paris, she was obliged to acknowledge the shouts of the multitude, which filled the garden below, by presenting herself on the balcony. The Governor of Paris had told her politely at the time, that "these were so many lovers." Little did she think that at the very moment a strong party around her was planning her divorce, under the supposition that the dauphin's coldness to his bride proceeded from dislike. Louis was a timid, though rough, youth at the time, and for a considerable period treated the attractions which the courtiers so highly extolled, with churlish indifference. The French king, indeed, did his best to promote a better understanding, and when the reserve of the dauphin once thawed, the latter became tenderly attached to her, and greatly improved by her influence and society.

An interesting trait of this youthful pair is told, as occurring at the moment when they might have been excused for entertaining other and more selfish thoughts. They were expecting the intelligence of the death of Louis XV. It had been agreed, as the disorder was one frightfully contagious, that the court should depart immediately upon learning it could be of no further assistance, and that a lighted taper, placed in the window of the dying monarch's chamber, should form a signal for the cavalcade to prepare for the journey. The taper was extinguished; a tumult of voices and advancing feet were heard in the outer apartment. "It was the crowd of courtiers deserting the dead sovereign's ante-chamber, to come and bow to the new power of Louis XVI." With a spontaneous impulse the dauphin and his bride threw themselves upon their knees, and shedding a torrent of tears, exclaimed, "O God! guide us, protect us; we are too young to govern." Thus the Countess de Noailles found them as she entered, the first to salute Marie Antoinette as Queen of France.

For some time the young queen's liking for children was ungratified by the possession of any of her own, and this gave rise to an amusing attempt to adopt one belonging to others. One day, when she was driving near Luciennes, a little peasant boy fell under the horses' feet, and might have been killed. The queen took him to Versailles, appointed him a nurse, and installed him in the royal apartments, constantly seating him in her lap at breakfast and dinner. This child afterward grew up a most sanguinary revolutionist! It was nine years before Marie Antoinette had the blessing of any offspring; four children were,

MARIE ANTOINETTE

BY

THÉOPHILE GIDE

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after that interval, born to her, two of whom died in their infancy, and two survived to share their parent's subsequent imprisonment. The sad history of her son's fate, a promising and attractive boy, is well known.

We have seen the Austrian princess was no favorite with her husband's nation. After a time accusations as unjust as serious assailed her, and in the horrors of the succeeding revolution the popular feeling evinced itself in a hundred frightful ways. Louis XVI., a mild prince, averse to violence or bloodshed, was unfit to stem the tide of opposition; had he possessed the energy of his queen, the Reign of Terror had perhaps never existed. Throughout her misfortunes, in every scene of flight, of opprobrium, and desolation, her magnanimity and courage won, even from the ruffians around, occasional expressions of sympathy. A harrowing and melancholy history is hers, and one which has been often vividly narrated; its details, also, are sufficiently recent to be still fresh within the recollection of many. For these reasons, and further because it seems to us a repellent, if not a mischievous, act to amplify such records before advancing age shall have invested them to the mind with deeper significance, we gladly pass over the picture suggested by this dark historical page, and, resuming the narrative where Madame de Campan drops it, content ourselves with a description of the last scene in the terrible drama.

When this devoted woman left her royal mistress in the miserable cell at the Convent of the Feuillans, she never again saw her. Imprisonment, and the intense grief she experienced, more for others than for herself, completely transformed the once beautiful queen; her hair was prematurely silvered, like that of Mary Stuart, her figure bowed, her voice low and tremulous. Then came the separation from the king. Once more only did her eyes again behold him, and after the parting between the dethroned monarch and his adoring family, he might indeed have been able to say, "The bitterness of death was passed." However weak at intervals, the unhappy Louis met his death heroically. The sufferings of his wife at the time when the guns boomed out the fearful catastrophe, may be supposed to have been as great as the human frame has power to endure. Shortly after, she was separated from her children and conveyed to the prison of the Conciergerie, a damp and loathsome place, whence she was summoned one morning in October to receive a sentence for which it is probable she ardently longed. Let us look at her through the bars of her prison upon her return thither after it was pronounced.

It is four o'clock in the morning. The widowed Queen of France stands calm and resigned in her cell, listening with a melancholy smile to the tumult of the mob outside. A faint illumination announces the approach of day; it is the last she has to live! Seating herself at a table she writes, with hurried hand, a last letter of ardent tenderness to the sister of her husband, the pious Madame Elizabeth, and to her children; and now she passionately presses the insensible paper to her lips, as the sole remaining link between those dear ones and herself. She stops, sighs, and throws herself upon her miserable pallet. What! in such an hour as this can the queen sleep? Even so!

And now look up, daughter of the Cæsars! Thou art waked from dreams of hope and light, from the imaged embrace of thy beloved Louis, thy tender infants, by a kind voice, choked by tears. Arise! emancipated one, thy prison doors are open. Freedom, freedom is at hand!

Immediately in front of the palace of the Tuileries—scene of the short months of her wedded happiness—there rises a dark, ominous mass. Around is a sea of human faces; above, the cold frown of a winter's sky. With a firm step the victim ascends the stairs of the scaffold, her white garments wave in the chill breeze, a black ribbon by which her cap is confined beats to and fro against her pale cheeks. You may see that she is unmindful of her executioners—she glances, nay, almost smiles, at the sharp edge of the guillotine, and then turning her eyes toward the Temple, utters, in a few agitated words, her last earthly farewell to Louis and her children. There is a hush—a stillness of the grave—for the very headsman trembles as the horrible blade falls—anon, a moment's delay. And now, look! No, rather veil your eyes from the dreadful sight; close your ears to that fiendish shout—*Vive la République!* It is over! the sacrifice is accomplished! the weary spirit is at rest!

Let us dwell upon this last mournful pageant only sufficiently far as to imitate the virtues, and emulate the firmness and resignation with which she met her doom. Nothing is permitted without a meaning, all is for either warning or example; and while breathing a prayer that Heaven may avert a recurrence of such outrages, let us remember that moral indecision, the undue love of pleasure, and an aimless, profitless mode of life, as surely, and not less fatally, may raise the surging tide of events no human skill can quell, as the most selfish abandonment to uncontrolled desires.

ANDREAS HOFER

(1767–1810)

ANDREAS HOFER, a native of the village of St. Leonard, in the valley of Passeyr, was born on November 22, 1767. During the greater part of his life he resided peaceably in his own neighborhood, where he kept an inn, and increased his profits by dealing in wine, corn, and cattle. About his neck he wore at all times a small crucifix and a medal of St. George. He never held any rank in the Austrian army; but he had formed a secret connection with the Archduke John, when that prince had passed a few weeks in the Tyrol making scientific researches. In November, 1805, Hofer was appointed deputy from his native valley at the conference of Brunnecken, and again at a second conference, held at Vienna, in January, 1809.

The Tyrol had for many years been an appendage of the Austrian states, and the inhabitants had become devoted to that government; so that when, by the treaty of Presburg, the province was transferred to the rule of the King of Bavaria, then the ally of Napoleon I., the peasants were greatly irritated, and their discontent was further provoked by the large and frequent exactions which the continual wars obliged the new government to levy on the Tyrolese. The consequence was, that when their own neighborhood became the theatre of military operations between Austria and France, in the spring of 1809, a general insurrection broke out in the Tyrol. His resolution of character, natural eloquence, and private influence as a wealthy citizen, joined to a figure of great stature and strength, pointed out Andreas Hofer to his countrymen as the leader of this revolt; and with him were united Spechbacher, Joseph Haspinger, and Martin Teimer, whose names have all become historical. A perfect understanding was maintained between the insurgents and their late masters, and the signal of the insurrection was given by the Archduke John in a proclamation from his headquarters at Klagenfurth. An Austrian army of 10,000 men, commanded by the Marquis Castellar, was directed to enter the Tyrol and support the insurrection, which broke out in every quarter on the night of April 8, 1809. The Austrian general himself crossed the frontier at daybreak on the 9th. On their side the Bavarians marched an army of 25,000 men into the province to quell the revolt. Hofer and his band of armed peasantry fell upon the Bavarians while entangled in the narrow glens, and on April 10th defeated Besson and Lemoine at the Sterzinger Moos. The next day a troop of peasants under Teimer took possession of Innsbrück. On the 12th Besson surrendered with his division of 3,000 men. In a single week all the fortresses were recovered, nearly 10,000 troops of the enemy were destroyed, and the whole province was redeemed.

Incensed by this interruption of his plans, Napoleon despatched three armies almost simultaneously to assail the province at three different points. One of these forces was under the command of Marshal Lefebvre, who, on May 12th, defeated the united army of the Austrian soldiers, under Castellar, and the Tyrolese peasantry, under Haspinger and Spechbacher, at Feuer Singer. The troops made a bad use of their victory, slaughtering the inhabitants of the villages on their route, without distinction of age or sex. The Bavarian and French officers encouraged and took part in the excesses of the soldiers; while the insurgents, far from retaliating, refrained from every species of license, and nursed their wounded prisoners with the same care as their own friends. Hofer himself was

not always present in action, his talent consisting rather in stimulating his countrymen than in actual fighting; but at the battle of Innsbrück (May 28, 1809), he led the Tyrolese, exhibited both skill and daring, and defeated the Bavarians with a loss of 4,000 men. The whole of the Tyrol was delivered a second time. But after the battle of Wagram (July 6th), and the armistice of Znaim which immediately followed, the Austrian army was obliged to evacuate the Tyrol, leaving the helpless insurgents to the mercy of an exasperated enemy. Marshal Lefebvre now invaded the province a second time, and entered it by the road from Salzburg, with an army of 21,000 troops, while Beaumont, having crossed the ridge of Schnartz with a force 10,000 strong, threatened Innsbrück from the north. On July 30th Innsbrück submitted. A series of desperate contests followed along the line of the Brenner, mostly with doubtful success, but in one the marshal was defeated, when twenty-five pieces of artillery and a quantity of ammunition fell into the hands of the Tyrolese. Again, on August 12th, Marshal Lefebvre, with an army of 25,000 Bavarian and French soldiers, 2,000 of whom were cavalry, was totally beaten by the Tyrolese army, consisting of 18,000 armed peasants. The battle, which was fought near Innsbrück, is said to have lasted from six in the morning until midnight. For a third time the Tyrol was free.

After this victory, entirely achieved by the peasantry themselves, Hofer became the absolute ruler of the country; coins were struck with his effigy, and proclamations issued in his name. His power, however, scarcely lasted two months, and became the cause of his ruin ultimately. Three veteran armies, comprising a force of nearly 50,000 French and Bavarian troops, were despatched in October to subdue the exhausted province; and, unable to make head against them, Hofer was obliged to take refuge in the mountains. Soon after, a price having been set on his head, a pretended friend (a priest named Donay) was induced to betray him, January 20, 1810. After his arrest he was conveyed to Mantua, and the intelligence having been communicated by telegraph to the French emperor, an order was instantly returned that he must be tried. This order was a sentence; and after a court-martial, at which, however, the majority were averse to a sentence of death, Hofer was condemned to be shot. His execution took place on February 20, 1810, his whole military career having occupied less than forty weeks. The Emperor Francis conferred a handsome pension upon the widow and family of Hofer, and created Hofer's son a noble. The Austrian government also raised a marble statue of heroic size in the cathedral of Innsbrück, where the body of the patriot was interred; while his own countrymen have commemorated his efforts by raising a small pyramid to mark the spot where he was taken.

ANDREAS HOFER LED TO EXECUTION.

QUEEN LOUISE OF PRUSSIA

By Mrs. Francis G. Faithfull

(1776–1810)

There is at Paretz, near Potsdam, a flower-bordered walk leading from a grotto overlooking the Havel to an iron gate, above which is inscribed "May 20, 1810" and the letter "L." Within the grotto an iron table bears in golden characters, "Remember the Absent."

These words were engraved by order of Friedrich Wilhelm III. of Prussia; and the "absent" he would have remembered — "the star of his life, who had lighted him so truly on his darkened way"—was the wife who died of a broken heart before reaching middle age.

Louise Augusta Wilhelmina, third daughter of Duke Charles of Mecklenburg-Strelitz, was born on March 10, 1776, in the city of Hanover. Her mother died when she was six years old, and henceforth she and her sister Frederica lived with their grandmother, the Landgravine of Darmstadt, sometimes at the Burgfreiheit Palace, sometimes at a château in the Herrengarten, surrounded by formal gardens and orangeries. The girls were brought up simply, making their own clothes, and going much among the poor. Now and then they made expeditions to Strasburg or the Vosges Mountains; and, when the Emperor Leopold was crowned at Frankfort, the Frau von Goethe housed them hospitably, and was highly entertained by the glee with which they worked a quaint sculptured pump in her courtyard. Two years later the advance of French troops compelled them to seek refuge with their eldest sister, the reigning Duchess of Hildburghausen; and on their homeward way they visited the Prussian headquarters, that the Landgravine might present them to the king. His sons were with him, and long afterward the Crown Prince told a friend, "I felt when I saw her, 'tis she or none on earth."

The wooing was short. On April 24, 1793, he exchanged betrothal rings with Louise, and then rejoined his regiment. Soon after, the Princesses of Mecklenburg went over to the camp, Louise appearing "a heavenly vision" in the eyes of Goethe, who saw her there.

In the December of that same year Berlin, gay with flags and ablaze with colored lamps, welcomed Duke Charles and his daughters; and on Christmas Eve the diamond crown of the Hohenzollerns was placed on her fair head, and in her

glistening silver robe she took part in the solemn torch procession round the White Saloon.

Then her young husband took her home to their palace in the "Unter den Linden." They were very happy. In the sunshine of his wife's presence the prince's spirit, crushed in childhood by a harsh tutor, soon revived, while Louise, though the darling of the court, was always most content when alone with him.

"Thank God! you are my wife again," he exclaimed, one day, when she had laid aside her jewels.

"Am I not always your wife?" she asked, laughingly.

"Alas! no; too often you can be only the crown princess."

Her father-in-law never wearied of showering kindnesses on his "Princess of Princesses." On her eighteenth birthday he asked if she desired anything he could give. "A handful of gold for the Berlin poor," was the prompt petition.

"And how large a handful would the birthday child like?"

"As large as the heart of the kindest of kings."

The Castle of Charlottenberg, one of his many gifts to the young pair, proving too splendid for their simple tastes, he bought for them the Manor of Paretz, about two miles from Potsdam. There Louise busied herself with household affairs, while her husband gardened, strolled over his fields, or inspected his farm stock. They played and sang together, or read Shakespeare and Goethe, while to complete this home-life came two baby boys: Fritz, born in October, 1795, and Friedrich Wilhelm, in March, 1797. Someone once asked Louise if this country existence was not rather dull. "Oh! no," she exclaimed; "I am quite happy as the worthy lady of Paretz."

But in the late autumn of 1797 the king died, and the quiet freedom of Paretz had to be exchanged for the restraints of court life. Little as either of the two desired regal pomp, they played their new parts well. Friedrich Wilhelm, stately in bearing, and acknowledged as the handsomest man in his realm, looked every inch a king; and if his laconic speech and caustic criticisms sometimes gave offence, the winning gentleness of his beautiful wife more than made amends. Nobles and citizens, statesmen, soldiers, and savants were alike made welcome; and Louise knew instinctively how to make each show at his best. With eager interest she discussed Pestalozzi's ideas with his disciples; and when Gotlöeb Hiller, the poet-son of a miner, was presented to her, she led him aside, and by the friendly ease with which she talked of things familiar to him, speedily banished his shyness. Indeed, ready as she was to recognize high gifts and to learn from all able to teach, yet it was to the obscure and suffering that her tones were most soft and gracious. Even in trifles her thoughtfulness was unfailing. When a count and a shoemaker were announced at the same moment, she gave audience first to the shoemaker. "For time is more valuable to him."

At Dantzic she constantly wore an amber necklace, because it had been the gift of the townsfolk. The voice which in childhood had pleaded for the panting footman running beside her grandmother's coach, might still be heard interceding, for when the royal carriage was overturned near Warsaw, and the Oberk

QUEEN LOUISE VISITING THE POOR

BY

HUGO HÄNDLER

QUEEN LOUISE VISITING THE POOR

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HUGO HANDLER

Photogravure. Berlin Photographic Co

of Messterin rated the servants, Louise interposed: "We are not hurt, and our people have assuredly been more alarmed than we."

Sometimes the midday meal was spread beneath a forest tree, and from far and near the peasants flocked to get "even a glimpse of her lovely face." They followed in crowds while she and the king climbed the Schneekoppe on foot, but loyal shouts died into awed silence when, at the summit, Friedrich Wilhelm bared his head, and the two standing side by side gazed at the glorious view. "That was one of the most blessed moments of my life," Louise said afterward; "we seemed lifted above this earth and nearer our God."

They entered the mines at Woldenberg by a swift-flowing stream, and twenty years afterward the steersman of their boat was fond of telling how, in the dark cavern—"The Foxes' Hole"—he saw her well by the torchlight. "In all my life I never saw such a face. She looked grand, as a queen should look, but gentle as a child. She gave me with her own hands two Holland ducats. My wife wears them when she goes to church, for what she touched is holy."

Louise had never meddled in foreign politics. She had been, she designed to be, only the "Landesmutter," and even when the murder of the Duc d'Enghien, seized on Prussian soil, aroused in Berlin a storm of indignation, in which she fully shared, she yet sympathized in the mental distress which found vent in her husband's often-repeated words, "I cannot decide for war."

At last he did decide. In October, 1805, Napoleon ordered Bernadotte to march his army corps through Anspach. This contemptuous comment on Prussia's ten-years' forbearance was too much for the king's pride. Armies were raised in Franconia, Saxony, Westphalia, and while the excitement was at fever point the czar came to Berlin. All his rare charm of manner was brought to bear, and at midnight, in the presence of Louise, the two monarchs, standing with clasped hands beside the tomb of the great Friedrich, solemnly pledged themselves to a close alliance.

Alexander departed to lead his Russians to Moravia, and Friedrich Wilhelm despatched a protest to the French camp; but the envoy, Haugwitz, arriving on the eve of Austerlitz, waited the issue of the battle, and then, withholding his packet, proposed to the victor a fresh treaty with Prussia. There was wrath in Berlin when his doings became known. The king at first disowned the disgraceful compact, but Austerlitz had just taught him what Napoleon's enemies might expect. French troops were already massing on his frontier, and in an evil hour he broke faith with the czar! To Louise, who neither feared foe nor deserted friend, that was a bitter time—doubly sad, indeed, since most of the long winter was spent by the dying bed of her youngest child. When she lost him her own strength broke down, and the doctors ordered her away to drink the Pyrmont waters. In the late summer she was able to rejoin her husband, and he had startling news to tell, for war with France was close at hand.

Since Haugwitz's fatal agreement Napoleon had heaped injuries on Prussia. Now, at least, king and people were of one mind. The young Prussian officers sharpened their swords on the French ambassador's window-sills, patriotic songs

were hailed with thunders of applause in street and theatre, and when the queen, clad in the uniform of her own Hussars, rode at their head through the city, she was greeted with passionate loyalty.

Unhappily, Friedrich Wilhelm, hitherto too tardy, was now too precipitate. He had been passive while France crushed Austria, and Austria, suspicious and disabled, neither could nor would assist him. Russia, with better reason for distrust, responded generously to his appeal, but he did not wait for her promised aid. For all his haste, Napoleon, with 180,000 men, was nearing the Thuringian Forest before the Prussian troops left Berlin. They were very confident, those Prussian troops, and the shouting multitudes who watched the well-trained artillery and cavalry defiling by, hardly dreamed of disaster; yet it came almost at once. The Saxon corps, led by the king's cousin, Prince Louis, pushing on too fast, was surprised and surrounded, and the gallant young commander, the queen's dear friend, the idol of the army, fell while rallying his men.

Louise, who had hurriedly joined the king from Weimar, could hardly be persuaded to leave him, but on the evening of October 13th he confided her to a cavalry escort, promising speedy tidings of the coming battle. As she threaded the lonely passes of the Hartz Mountains she heard the distant cannonading, and a broken sentence now and again fell from her lips: "We know that all things work together for good." Late in the misty October twilight she drove into Brunswick. At Brandenburg a courier brought the news her trembling heart awaited. All was lost! Twenty thousand Prussians lay on the fields of Auerstadt and Jena, and the French were already in Weimar. The king was alive, but two horses had been killed under him. Grief-stricken, travel-worn as she was, Louise must not halt. Before she reached Berlin her children had been sent to Schwedt-on-Oder. She followed thither, almost terrifying them by her changed, despairing looks. As soon as she could check her weeping, she told her boys all she knew about Prince Louis's death. "Do not only grieve for him. Be ready for Prussia's sake to meet death as he met it," and then, in burning, never-forgotten words, she bade them one day free their country and break the power of France.

There seemed only a choice between utter destruction and utter submission, and yet when Napoleon demanded the cession of almost the whole kingdom, Friedrich Wilhelm and his wife agreed that "only determined resistance can save us." She was slowly rallying at Königsberg from a fever caught in the crowded city, when the cry was raised of the coming French. Propped by pillows, swathed in shawls, she drove through blinding sleet to Memel, the one fortress still left to the king. At her first halting-place the wind whistled in through a broken window, and the melting snow dripped from the roof on to her bed. Her companions trembled for her, but she, calm and trustful, hailed as a good omen the sunshine which welcomed them within the walls of Memel.

A week later Benningsen and his Russians, who had been wading knee-deep through Polish forests and fording swollen streams, always with 90,000 Frenchmen in hot pursuit, turned to bay amid the frozen lakes and drifted snows of

Eylau. Next day those snows for miles around were red with blood. It was hard to tell with whom the costly victory lay, but Napoleon despatched Bertrand to the Russian outposts to propose an armistice, and Benningsen sent him on to Memel, reminding the Prussian king that it could not be their interest to grant what it was Napoleon's interest to ask. The terms were, indeed, far easier than those offered after June; but Friedrich Wilhelm, true to the ally who had held the field almost single-handed through that terrible winter, would make no separate agreement, nor did Louise receive more favorably a message to herself, conveying Napoleon's wish to pay his court to her in her own capital.

Though the piercing Baltic winds tried her strength greatly, she employed herself whenever able in reading and visiting the over-full hospitals. To a dear friend she said, "I can never be perfectly miserable while faith in God is open to me." "Only by patient perseverance," so she wrote to her father, "can we succeed. Sooner or later I know we shall do so."

It was not to be yet. On June 14, 1807, Napoleon annihilated the Russians at Friedland, and four days later Dantzic fell. Her tone grew sadder. "We are not yet bereft of peace. My great sorrow is being unable to hope."

As the czar could resist no longer and Napoleon desired peace, they met at Tilsit, and there, on a covered raft moored midway in the Niemen, arranged the outlines of a treaty. The next day Friedrich Wilhelm, yielding to stern necessity, accepted terms "to the last degree hard and overwhelming." The czar, believing that Louise might move even Napoleon to clemency, her husband begged her to join him at Tilsit. On reading this summons she burst into tears, declaring this the hardest task ever given her to do. "With my broken wing how can I succeed?" she pathetically asked.

Napoleon paid his respects soon after her arrival, and they met at the stair-head. Louise, for Prussia's sake, forced herself to utter courteous regrets that he should have to mount so steep a staircase. He answered blandly that no difficulties were feared when striving for a reward beyond. Then, touching her gauze robe, asked, "Is it crêpe?"

"Shall we speak of such trifles at such a time?" was her only reply.

He was silent; then demanded, "How could you make war on me?"

She told him that they had overrated their strength.

"And relying on the great Friedrich's fame you deceived yourselves."

Louise's clear eyes met his steadily. "Sire, resting on the great Friedrich's fame, we might naturally deceive ourselves, if, indeed, we wholly did so."

Then she told him that she had come to entreat him to be generous to Prussia. He answered respectfully, but made no promise. Again, with exceeding earnestness, she implored at least for Magdeburg. Just then Friedrich Wilhelm entered, and Napoleon abruptly took leave.

"Sire," said Talleyrand warningly to him, when they were alone, "shall posterity say that you threw away your great conquest for the sake of a lovely woman?"

Louise meanwhile dwelt again and again on Napoleon's words, "You ask a

great deal, but I will think about it." Yet her heart was heavy, and when arrayed for the evening banquet in the splendid attire so long unworn, she likened herself sadly to the old German victims decked for sacrifice. Napoleon said of her afterward, "I knew I should see a beautiful and dignified queen; I found the most interesting woman and admirable queen I had ever known."

The treaty of Tilsit restored to Friedrich Wilhelm a fragment of his kingdom, but even this was to be held by the French till after the payment of a huge indemnity. Napoleon's threat that he would make the Prussian nobles beg their bread had hardly been a vain one, for the unhappy Prussians had to feed, lodge, and clothe every French soldier quartered in their land. Dark as was the outlook, Louise was upheld by loving pride in her husband. "After Eylau he might have deserted a faithful ally. This he would not do. I believe his conduct will yet bring good fortune to Prussia."

To help forward that good fortune they sold most of the crown lands and the queen's jewels, and had the gold plate melted down. Amid their heavy anxieties and pains they were not wholly unhappy, these two, who loved each other so entirely. "My Louise," the king said to her one day, "you have grown yet dearer to me in this time of trouble, for I more fully know the treasure I possess."

She, too, could write of him, "The king is kinder to me than ever, a great joy and reward after a union of fourteen years." Still those about her told of sleepless nights when prayer was her only relief. Her eyes had lost their brightness, her cheeks were pale, her step languid. By the Christmas of 1808 the last French soldier had quitted Prussian soil; but it was not deemed safe for the royal family to return at once to Berlin, and they spent the summer at Hufen, near Königsberg. Parents and children were constantly together, and the mother taught herself to believe that the sharp trials of those years would tell for good on her boys and girls. "If they had been reared in luxury and prosperity they might think that so it must always be."

It was not till the end of 1809 that the exiles turned their faces homeward. They travelled slowly, for the queen was still feeble. Everywhere a glad welcome greeted them; and on December 23d, the day on which, sixteen years before, she had entered the capital a girl-bride, Louise drove through its familiar streets in a carriage presented to her by the rejoicing citizens. Her father was waiting at the palace gate. He helped her to alight and led her in. Three years had gone by since she last crossed the threshold of her home, and what years they had been! Nor was the return all joy, for she knew and dreaded the changes she would find there. Napoleon and his generals had not departed empty handed. They had stripped the rooms of paintings and statues, of manuscripts and antiquities.

As the doors closed a great shout arose from the vast crowd before the palace. Presently she appeared in the balcony, and all saw the traces of long anguish in the lovely face, now bright with grateful smiles.

After a solemn service in the Dom, the king and queen drove through the illuminated city to the opera-house. "The queen sat beside her husband"—so

wrote Fouqué afterward—"and as she talked she often raised her eyes to him with a very touching expression. . . . Our beloved queen has thanked us with tears. Bonaparte has dimmed those heavenly eyes . . . and we must do all we can to make them sparkle again."

The bare walls, the empty cabinets of the palace, accorded with the almost ascetic habits now maintained there. Self-denial was made easy by one belief, that Prussia would arise from her great suffering stronger than before. The king and queen were not left to work alone toward that high end. Able generals replaced those who, through treachery or faint-heartedness, had surrendered the fortresses. Stein, now chief minister, curtailed the rights of the nobles, and gave the serfs an interest in guarding the soil they tilled; while Scharnhorst, by an ingenious evasion of Napoleon's edict limiting the Prussian army, contrived to have 200,000 men rapidly drilled and trained. The universities founded at Berlin and Breslau became the headquarters of secret societies for the deliverance of the Fatherland. Princes and professors, merchants ruined by the Berlin decrees, and peasants ground down by French exactions, joined the Jugendbund, and implicity obeyed the orders of its unseen heads. Through town and country spread that vast brotherhood, fired by the songs of Tieck and Arnim to live or die for Prussia.

And Louise watched thankfully the dawning promise of better days, "though, alas! we may die before they come."

Perhaps that sad presentiment haunted her husband too. If she jested with her children he would say wistfully, "The queen is quite herself to-day. What a blessing it will be if her mind recovers its joyous tone!"

That spring Louise was attacked by spasms of the heart. They did not last long, and when the court moved to Potsdam she seemed to regain strength, and showed much interest in discussing with Bishop Eylert how best to train her boys so that they might serve their country. Though very weak, she accompanied her family to Hohengieritz, the king perforce returning to Berlin. The loving eyes that watched her saw signs of amendment, but early on Monday, July 16th, the spasms recurred. For hours no remedies availed. She could only gasp for "Air! air!" and when the sharp pain had passed lay exhausted, now murmuring a few words of some hymn learnt as a child, faintly thanking God for each solace sent her, or entreating her grandmother to rest. No complaint passed her lips; she was only "very, very weary."

They told her that couriers had been despatched for the king, and she asked anxiously, "Will he soon come?" Before dawn he came, bringing the two elder boys. For those who tried to cheer him he had only one mournful reply: "If she were not mine she might recover." A gleam of joy lighted her pale face when he came to her bedside, but perceiving his emotion she asked, "Am I then so very ill?" Unable to reply, he hurriedly left the room, and she said to those standing by, "His embrace was so wild, so fervent, that it seemed as though he would take leave of me. Tell him not to do that, or I shall die at once."

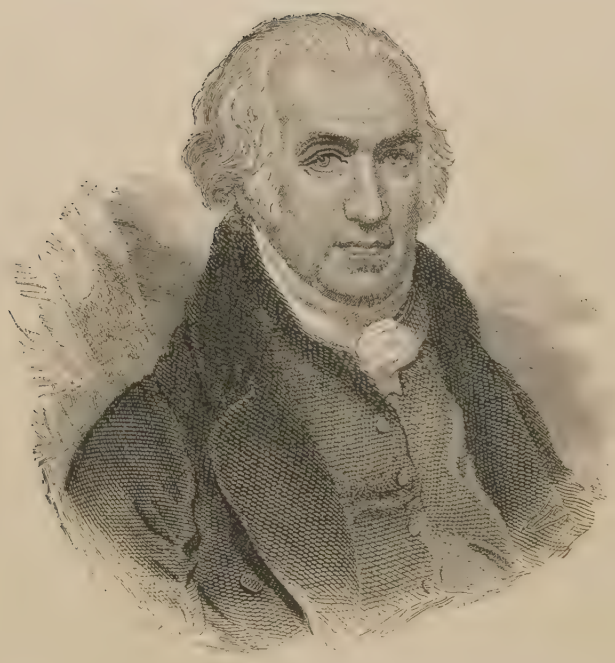
He returned, bringing in the children.

"My Fritz! my Wilhelm!" She had only time for one long gaze, and then the agonizing pain came again. One of the doctors tried to raise her, but she sank back. "Only death can help me;" and as all watched in breathless silence, she leaned her head against the shoulder of a faithful attendant, murmured, "Lord Jesus, shorten it!" and with one deep-drawn breath passed away.

JAMES WATT

By John Timbs, F.S.A.

(1736–1819)



James Watt was born at Greenock, January 19, 1736. He was the fourth child in a family which, for a hundred years, had more or less professed mathematics and navigation. His constitution was delicate, and his mental powers were precocious. He was distinguished from an early age by his candor and truthfulness; and his father, to ascertain the cause of any of his boyish quarrels, used to say, "Let James speak; from him I always hear the truth." James also showed his constructive tastes equally early, experimenting on his playthings with a set of small carpenter's tools, which his father had given him. At six he was still at home. "Mr. Watt," said a friend to the father, "you ought to send that boy to school, and not let him trifle away his time at home." "Look what he is doing before you condemn him," was the reply. The visitor then observed the child had drawn mathematical lines and figures on the hearth, and was engaged in a process of calculation. On putting questions to him, he was astonished at his quickness and simplicity. "Forgive me," said he, "this child's education has not been neglected; this is no common child."

Watt's cousin, Mrs. Marian Campbell, describes his inventive capacity as a story-teller, and details an incident of his occupying himself with the steam of a tea-kettle, and by means of a cup and a spoon making an early experiment in the

MARCUS STONE PINXIT.

WATT DISCOVERING THE CONDENSATION OF STEAM.

condensation of steam. To this incident she probably attached more importance than was its due, from reverting to it when illustrated by her after-recollections. Out of this story, reliable or not in the sense ascribed to it, M. Arago obtained an oratorical point for an *éloge*, which he delivered to the French Institute. Watt may or may not have been occupied as a boy with the study of the condensation of steam while he was playing with the kettle. The story suggests a possibility, nothing more; though it has been made the foundation of a grave announcement, the subject of a pretty picture, and will ever remain a basis for suggestive speculation.

Watt was sent to a commercial school, where he was provided with a fair outfit of Latin and with some elements of Greek; but mathematics he studied with greater zest, and with proportionate success. By the time he was fifteen, he had read twice, with grave attention, Gravesande's "Elements of Natural Philosophy;" and "while under his father's roof he went on with various chemical experiments, repeating them again and again, until satisfied of their accuracy from his own observations." He even made himself a small electrical machine, about 1750–53; no mean performance at that date, since, according to Priestley's "History of Electricity," the Leyden phial itself was not invented until the years 1745–46.

His pastime lay chiefly in his father's marine store, among the sails and ropes, the blocks and tackle; or by the old gray gateway of the Mansion House on the hill above Greenock, where he would loiter away hours by day, and at night lie down on his back and watch the stars through the trees.

At this early age Watt suffered from continual and violent headaches, which often affected his nervous system for many days, even weeks; and he was similarly afflicted throughout his long life. He seldom rose early, but accomplished more in a few hours' study than ordinary minds do in many days. He was never in a hurry, and always had leisure to give to his friends, to poetry, romance, and the publications of the day; he read indiscriminately almost every new book he could procure. He assisted his father in his business, and soon learned to construct with his own hands several of the articles required in the way of his parent's trade; and by means of a small forge, set up for his own use, he repaired and made various kinds of instruments, and converted, by the way, a large silver coin into a punch-ladle, as a trophy of his early skill as a metal-smith. From this aptitude for ingenious handiwork, and in accordance with his own deliberate choice, it was decided that he should proceed to qualify himself for following the trade of a mathematical instrument maker. He accordingly went to Glasgow, in June, 1754, and from there, after a year's stay, he proceeded for better instruction to London.

On Watt's arrival in the metropolis, he sought a situation, but in vain, and he was beginning to despond, when he obtained work with one John Morgan, an instrument-maker, in Finch Lane, Cornhill. Here he gradually became proficient in making quadrants, parallel rulers, compasses, theodolites, etc., until, at the end of a year's practice, he could make "a brass sector with a French joint, which is

reckoned as nice a piece of framing work as is in the trade." During this interval he contrived to live upon eight shillings a week, exclusive of his lodging. His fear of the press-gang and his bodily ailments, however, led to his quitting London in August, 1756, and returning to Scotland, after investing twenty guineas in additional tools.

At Glasgow, through the intervention of Dr. Dick, he was first employed in cleaning and repairing some of the instruments belonging to the college; and, after some difficulty, he received permission to open a shop within the precincts as "mathematical instrument maker to the University." Here Watt prospered, pursuing alike his course of manual labor and of mental study, and especially extending his acquaintance with physics; endeavoring, as he said, "to find out the weak side of nature, and to vanquish her." About this time he contrived an ingenious machine for drawing in perspective; and from fifty to eighty of these instruments, manufactured by him, were sent to different parts of the world. He had now procured the friendship of Dr. Black and another University worthy, John Robison, who, in stating the circumstances of his first introduction to Watt, says: "I saw a workman, and expected no more; but was surprised to find a philosopher as young as myself, and always ready to instruct me."

It was some time in 1764 that the professor of natural philosophy in the University desired Watt to repair a pretty model of Newcomen's steam-engine. Like everything which came into Watt's hands, it soon became an object of most serious study.

The interesting little model, as altered by the hand of Watt, was long placed beside the noble statue of the engineer in the Hunterian Museum at Glasgow. Watt himself, when he had got the bearings of his invention, could think of nothing else but his machine, and addressed himself to Dr. Roebuck, of the Carron Iron-works, with the view of its practical introduction to the world. A partnership ensued, but the connection did not prove satisfactory. Watt went on with his experiments, and in September, 1766, wrote to a friend: "I think I have laid up a stock of experience that will *soon* pay me for the trouble it has cost me." Yet it was between eight and nine years before that invaluable experience was made available, so as either to benefit the public or repay the inventor; and a much longer term elapsed before it was possible for that repayment to be reckoned in the form of substantial profit.

Watt now began to practise as a land-surveyor and civil engineer. His first engineering work was a survey for a canal to unite the Forth and Clyde, in furtherance of which he had to appear before the House of Commons. His consequent journey to London was still more important, for then it was that he saw for the first time the great manufactory which Boulton had established at Soho, and of which he was afterward himself to be the guiding intelligence. In the meantime, among his other performances, he invented a micrometer for measuring distances; and, what is still more remarkable, he entertained the idea of moving canal-boats by the steam-engine through the instrumentality of a *spiral oar*, which as nearly as possible coincides with the screw-propeller of our day

Watt's negotiations for partnership with Boulton were long and tedious. Dr. Roebuck's creditors concurred because, curiously enough, *none of them valued Watt's engine at a farthing*. Watt himself now began to despair, and his health failed ; yet in 1774, when he had removed to Birmingham, he wrote to his father : " The fire-engine I have invented is now going, and answers much better than any other that has yet been made ; and I expect that the invention will be very beneficial to me."

A long series of experimental trials was, nevertheless, requisite before the engine could be brought to such perfection as to render it generally available to the public, and therefore profitable to its manufacturers. In January, 1775, six years of the patent had elapsed, and there seemed some probability of the remaining eight running out as fruitlessly. An application which was made for the extension of its term was unexpectedly opposed by the eloquence of Burke ; but the orator and his associates failed, and the extension was accorded by Act of Parliament.

The first practical employment of Watt's engines to any considerable extent was in the mining districts of Cornwall, where he himself was, in consequence, compelled to spend much of his time subsequent to 1775. Here he had to contend not only with natural obstacles in the dark abysses of deeply flooded mines, but with a rude and obstinate class of men as deeply flooded by inveterate prejudices. The result in the way of profit was not, however, satisfactory, notwithstanding the service to the mining interest was enormous. " It appears," says Watt, in 1780, " by our books, that Cornwall has hitherto eat up all the profits we have drawn from it, and all we have got by other places, and a good sum of our own money to the bargain."

At this stage Watt himself was more fertile in mechanical inventions than in any other portion of his busy life. Taking his patents in their chronological order, the first (subsequent to that of 1769) was " For a new method of copying letters and other writings expeditiously," by means of copying *presses*. Of the same date was his invention of a machine " for drying linen and muslin by steam." On October 25, 1781, he took out his third patent (the second of the steam-engine series), " for certain new methods of applying the vibrating or reciprocating motion of steam or fire engines, to produce a continued rotative motion round an axis or centre, and thereby to give motion to the wheels of mills or other machines." One of these methods was that commonly known as the *sun-and-planet wheels ;* they were five in all. A favorite employment of his in the workshops at Soho, in the later months of 1783 and earlier ones of 1784, was to teach his steam-engine, now become nearly as docile as it was powerful, to work a tilt-hammer for forging iron and making steel. " Three hundred blows per minute—a thing never done before," filled him, as his biographer says, with feelings of excusable pride. Another patent in the steam-engine series, taken out in 1784, contained, besides other methods of converting a circular or angular motion into a perpendicular or rectilineal motion, the well-known and much-admired *parallel motion*, and the application of the steam-engine to give motion to

wheel-carriages for carrying persons and goods. To ascertain the exact number of strokes made by an engine during a given time, and thereby to check the cheats of the Cornish miners, Watt also invented the "Counter," with its several indexes. Among his leading improvements, introduced at various periods, were the *throttle-valve*, the application of the *governor*, the *barometer* or float, the *steam-gauge*, and the indicator. The term during which he seems to have thus combined the greatest maturity with the greatest activity of intellect, and the portion of his life which they comprehended, was from his fortieth to his fiftieth year. Yet it was a term of increased suffering from his acute sick-headaches, and remarkable for the infirmities over which he triumphed; notwithstanding, he himself complained of his "stupidity and want of the inventive faculty."

Watt's chemical studies in 1783, and the calculations they involved from experiments made by foreign chemists, induced him to make a proposal for a philosophical *uniformity of weights and measures;* and he discussed this proposal with Priestley and Magellan. While Watt was examining the constituent parts of water, he had opportunities of familiar intercourse not only with Priestley, but with Withering, Keir, Edgeworth, Galton, Darwin, and his own partner, Boulton—all men above the average for their common interest in scientific inquiries. Dr. Parr frequently attended their meetings, and they kept up a correspondence with Sir William Herschel, Sir Joseph Banks, Dr. Solander, and Afzelius. Mrs. Schimmelpenninck, who was greatly given to physiognomical studies, has left us this picture of Watt at this period.

"Mr. Boulton was a man to rule society with dignity; Mr. Watt, to lead the contemplative life of a deeply introverted and patiently observant philosopher. He was one of the most complete specimens of the melancholic temperament. His head was generally bent forward, or leaning on his hand in meditation; his shoulders stooping, and his chest falling in; his limbs lank and unmuscular, and his complexion sallow. His intellectual development was magnificent; comparison and causality immense, with large ideality and constructiveness, individuality, an enormous concentrativeness and caution.

"He had a broad Scottish accent; gentle, modest, and unassuming manners; yet, when he entered a room, men of letters, men of science, nay, military men, artists, ladies, even little children, thronged round him. Ladies would appeal to him on the best means of devising grates, curing smoky chimneys, warming their houses, and obtaining fast colors. I can speak from experience of his teaching me how to make a dulcimer and improve a Jew's harp."

In the year 1786, Watt and Boulton visited Paris, on the invitation of the French Government, to superintend the erection of certain steam-engines, and especially to suggest improvements in the great hydraulic machine of Marly, which Watt himself designates a "venerable" work. In Paris Watt made many acquaintances, including Lavoisier, Laplace, Fourcroy, and others scarcely less eminent; and while here he discussed with Berthollet a new method of *bleaching* by chlorides, an invention of the latter which Watt subsequently introduced into England.

Meanwhile Watt had vigilantly to defend his patents at home, which were assailed by unworthy and surreptitious rivals as soon as it was proved that they were pecuniarily valuable. Some of the competing engines, as Watt himself described them, were simply asthmatic. "Hornblower's, at Radstock, was obliged to stand still once every ten minutes to snore and snort." "Some were like Evan's mill, *which was a gentlemanly mill;* it would go when it had nothing to do, but it refused to work." The legal proceedings, both in equity and at common law, which now became necessary, were numerous. One bill of costs, from 1796 to 1800, amounted to between £5,000 and £6,000; and the mental and bodily labor, the anxiety and vexation, which were superadded, involved a fearful tax on the province of Watt's discoveries.

With the year 1800 came the expiration of the privilege of the patent of 1769, as extended by the statute of 1775; and also the dissolution of the original copartnership of Messrs. Boulton and Watt, then of five-and-twenty years' duration. The contract was renewed by their sons, the business having become so profitable that Watt and his children were provided with a source of independent income; and at the age of sixty-four the great inventor had personally realized some of the benefits he contemplated.

Henceforth Watt's ingenuity became excursive, discretionary, almost capricious; but in every phase and form it continued to be beneficent. In 1808 he founded a prize in Glasgow College, as an acknowledgment of "the many favors that learned body had conferred upon him." In 1816 he made a donation to the town of Greenock, "to form the beginning of a scientific library" for the instruction of its young men. Nor, amid such donations, were others wanting on his part, such as true religion prescribes, to console the poor and relieve the suffering.

In 1816, on a visit to Greenock, Watt made a voyage in a steamboat to Rothsay and back again. In the course of this experimental trip he pointed out to the engineer of the boat the method of "backing" the engine. With a foot-rule he demonstrated to him what he meant. Not succeeding, however, he at last, under the impulse of the ruling passion (and we must remember he was then eighty), threw off his overcoat, and putting his hand to the engine himself, showed the practical application of his lecture. Previously to this, the "back-stroke" of the steamboat engine was either unknown or not generally known. The practice was to stop the engine entirely a considerable time before the vessel reached the point of mooring, in order to allow for the gradual and natural diminution of her speed.

With regard to the application of steam power to *locomotion on land*, it is remarkable enough that, when Watt's attention was first directed, by his friend Robison, to the steam-engine, "he (Robison) at that time drew out an idea of applying the power to the moving of wheel-carriages." "But the scheme," adds Watt, "was not matured, and was soon abandoned on his going abroad."

In 1769, however, when he heard that a linen-draper, one Moore, had taken out a patent for moving wheel-carriages by steam, he replied: "If linen-draper

Moore does not use my engine to drive his chaises, he can't drive them by steam." In the specification of his patent of 1784, he even described the principles and construction of "steam-engines which are applied to give motion to wheel-carriages for removing persons or goods, or other matters, from place to place," and in 1786, Watt himself had a steam-carriage "of some size under hand;" but his most developed plan was to move such carriages "on a hard smooth plane," and there is no evidence to show that he ever anticipated the union of the rail and wheel.

Among Watt's mechanical recreations, soon after the date of the last of his steam-engine patents, were four plans of making lamps, which he describes in a letter to Argand; and for a long time lamps were made at Soho upon his principles, which gave a light surpassing, both in steadiness and brilliancy, anything of the kind that had appeared. About a year after, in 1788, he made "a pretty instrument for determining the specific gravities of liquids," having, he says to Dr. Black, improved on a hint he had taken.

Watt also turned his "idle thoughts" toward the construction of an *arithmetical machine*, but he does not appear ever to have prosecuted this design further than by mentally considering the manner in which he could make it perform the processes of multiplication and division.

Early in the present century Watt devised, for the Glasgow water-works, to bring pure spring-water across the Clyde, an articulated suction-pipe, with joints formed on the principle of those in a lobster's tail, and so made capable of accommodating itself to all the actual and possible bendings at the bottom of the river. This pipe was, moreover, executed at Soho from his plans, and was found to succeed perfectly.

Watt describes, as his hobby, a *machine to copy sculpture*, suggested to him by an implement he had seen and admired in Paris in 1802, where it was used for tracing and multiplying the dies of medals. He foresaw the possibility of enlarging its powers so as to make it capable of working even on wood and marble, to do for solid masses and in hard materials what his copying machine of 1782 had already done for drawings and writings impressed upon flat surfaces of paper—to produce, in fact, a perfect fac-simile of the original model. He worked at this machine most assiduously, and his "likeness lathe," as he termed it, was set up in a garret, which, with all its mysterious contents, its tools, and models included, have been carefully preserved as he left them.

It is gratifying to find that the charm of Watt's presence was not dimmed by age. "His friends," says Lord Jeffrey, speaking of a visit which he paid to Scotland when upward of eighty, "in that part of the country never saw him more full of intellectual vigor and colloquial animation, never more delightful or more instructive." It was then also that Sir Walter Scott, meeting him "surrounded by a little band of northern literati," saw and heard what he felt he was never to see or hear again—the alert, kind, benevolent old man, his talents and fancy overflowing on every subject, with his attention alive to everyone's question, his information at everyone's command." Campbell, the poet, who saw him later,

in the beginning of 1819 (he was then eighty-three), describes him as so full of anecdote, that he spent one of the most amusing days he had ever had with him. Lord Brougham, later still, in the summer of the same year, found his instructive conversation and his lively and even playful manner unchanged. But in the autumn of this year, on August 19th, he expired tranquilly at his house at Heathfield. He was buried at Handsworth. A tribute to his memory was but tardily rendered by the nation.

Jeffrey and Arago added more elaborate tributes to Watt's genius; and Wordsworth has declared that he looked upon him, considering his magnitude and universality, "as perhaps the most extraordinary man that this country has ever produced." His noblest monument is, however, his own work.

DR. EDWARD JENNER

By John Timbs, F.S.A.

(1749–1823)

Few of the many thousand ills which human flesh is heir to, have spread such devastation among the family of man as small-pox. Its universality has ranged from the untold tribes of savages to the silken baron of civilization; and its ravages on life and beauty have been shown in many a sad tale of domestic suffering. To stay the destroying hand of such a scourge, which by some has been identified with the Plague of Athens, was reserved for Edward Jenner, the discoverer of vaccination.

The great fact can, however, be traced half a century before Jenner's time. In the journal of John Byron, F.R.S., under date June 3, 1725, it is recorded that: "At a meeting of the Royal Society, Sir Isaac Newton presiding, Dr. Jurin read a case of small-pox, where a girl who had been inoculated and had been vaccinated, was tried and had them not again; but another [a] boy, caught the small-pox from this girl, and had the confluent kind and died."

This case occurred at Hanover. The inoculation of the girl seems to have failed entirely; it was suspected that she had not taken the true small-pox;

doubts, however, were removed, as a boy, who daily saw the girl, fell ill and died, "having had a very bad small-pox of the confluent sort." This is the first use of the word *vaccination*, or, more familiarly, cow-pox, which is an eruption arising from the insertion into the system of matter obtained from the eruption on the teats and udders of cows, and especially in Gloucestershire; it is also frequently denominated *vaccine matter;* and the whole affair, inoculation and its consequences, is called vaccination, from the Latin *vacca*, a cow.

It is admitted that Jenner's merit lay in the scientific application of his knowledge of the fact that the chapped hands of milkers of cows sometimes proved a preventive of small-pox, and from those of them whom he endeavored to inoculate resisting the infection. These results were probably known far beyond Jenner's range, and long before his time; for we have respectable testimony of their having come within the observation of a Cheshire gentleman, who had been informed of them shortly after settling on his estate in Prestbury parish, in or about 1740. This does not in the least detract from Jenner's merit, but shows that to his genius for observation, analogy, and experiment, we are indebted for this application of a simple fact, only incidentally remarked by others, but by Jenner rendered the stepping-stone to his great discovery—or, in other words, extending its benefits from a single parish in Gloucestershire to the whole world.

We agree with a contemporary, that, "among all the names which ought to be consecrated by the gratitude of mankind, that of Jenner stands pre-eminent. It would be difficult, we are inclined to say impossible, to select from the catalogue of benefactors to human nature an individual who has contributed so largely to the preservation of life, and to the alleviation of suffering. Into whatever corner of the world the blessing of printed knowledge has penetrated, there also will the name of Jenner be familiar; but the fruits of his discovery have ripened in barbarous soils, where books have never been opened, and where the savage does not pause to inquire from what source he has derived relief. No improvement in the physical sciences can bear a parallel with that which ministers in every part of the globe to the prevention of deformity, and, in a great proportion, to the exemption from actual destruction."

The ravages which the small-pox formerly committed are scarcely conceived or recollected by the present generation. An instance of death occurring after vaccination is now eagerly seized and commented upon; yet seventy years have not elapsed since this disease might fairly be termed the scourge of mankind, and an enemy more extensive and more insidious than even the plague. A family blighted in its fairest hopes through this terrible visitation was an every-day spectacle: the imperial House of Austria lost eleven of its offspring in fifty years. This instance is mentioned because it is historical; but in the obscure and unrecorded scenes of life this pest was often a still more merciless intruder.

Edward Jenner was the third son of the Vicar of Berkeley, in Gloucestershire, where he was born, May 17, 1749. Before he was nine years of age he showed a growing taste for natural history, in forming a collection of the nests of the dormouse; and when at school at Cirencester he was fond of searching for fossils,

which abound in that neighborhood. He was articled to a surgeon at Sudbury, near Bristol, and at the end of his apprenticeship came to London, and studied under John Hunter, with whom he resided as a pupil for two years and formed a lasting friendship with that great man. In 1773 he returned to his native village, and commenced practice as a surgeon and apothecary, with great success. Nevertheless, he abstracted from the fatigues of country practice sufficient time to form a museum of specimens of comparative anatomy and natural history. He was much liked, was a man of lively and simple humor, and loved to tell his observation of nature in homely verse; and in 1788 he communicated to the Royal Society his curious paper on the cuckoo. At the same time he carried to London a drawing of the casual disease, as seen on the hands of the milkers, and showed it to Sir Everard Home and to others. John Hunter had alluded frequently to the fact in his lectures; Dr. Adams had heard of the cow-pox both from Hunter and Clive, and mentions it in his "Treatise on Poisons," published in 1795, three years previous to Jenner's own publication. Still, no one had the courage or the penetration to prosecute the inquiry except Jenner.

Jenner now resolved to confine his practice to medicine, and obtained, in 1792, a degree of M.D. from the University of St. Andrew's.

We now arrive at the great event of Jenner's life. While pursuing his professional education in the house of his master at Sudbury, a young countrywoman applied for advice; and the subject of small-pox being casually mentioned, she remarked she could not take the small-pox because she had had cow-pox; and he then learnt that it was a popular notion in that district, that milkers who had been infected with a peculiar eruption which sometimes occurred on the udder of the cow, were completely secure against the small-pox. The medical gentlemen of the district told Jenner that the security which it gave was not perfect; and Sir George Baker, the physician, treated it as a popular error. But Jenner thought otherwise; and although John Hunter and other eminent surgeons disregarded the subject, Jenner pursued it. He found at Berkeley that some persons, to whom it was impossible to give small-pox by inoculation, had had cow-pox; but that others who had had cow-pox yet received small-pox. This led to the doctor's discovery that the cow was subject to a certain eruption, which had the power of guarding from small-pox; and next, that it might be possible to propagate the cow-pox, and with it security from the small-pox, first from the cow to the human body, and thence from one person to another. Here, then, was an important discovery, that matter from the cow, intentionally inserted into the body, gave a slighter ailment than when received otherwise, and yet had the same effect of completely preventing small-pox. But of what advantage was it for mankind that the cows of Gloucestershire possessed a matter thus singularly powerful? How were persons living at a distance to derive benefit from this great discovery? Dr. Jenner, having inoculated several persons from a cow, took the matter from the human vesicles thus produced, and inoculated others, and others from them again; thus making it pass in succession through many individuals, and all with the same good effect in preventing small-pox.

An opportunity occurred of making a trial of the latter on May 14, 1796 (a day still commemorated by the annual festival at Berlin), when a boy, aged eight years, was vaccinated with matter from the hands of a milkmaid; the experiment succeeded, and he was inoculated for small-pox on July 1st following without the least effect. Dr. Jenner then extended his experiments, and in 1798 published his first memoir on the subject. He had originally intended to communicate his results to the Royal Society, but was admonished not to do so, lest it should injure the character which he had previously acquired among scientific persons by his paper on the natural history of the cuckoo. In the above work Dr. Jenner announces the security against small-pox afforded by the true cow-pox, and also traces the origin of that disease in the cow to a similar affection of the heel of the horse.

The method, however, met with much opposition, until, in the following year, thirty-three leading physicians and forty eminent surgeons of London signed an earnest expression of their confidence in the efficacy of the cow-pox. The royal family of England exerted themselves to encourage Jenner; the Duke of Clarence, the Duke of York, the king, the Prince of Wales, and the queen bestowed great attention upon Jenner. The incalculable utility of cow-pox was at last evinced; and observation and experience furnished evidence enough to satisfy the Baillies and Heberdens, the Monros and Gregorys of Britain, as well as the physicians of Europe, India, and America. The new practice now began to supersede the old plan pursued by the Small-pox Hospital, which had been founded for inoculation. The two systems were each pursued until 1808, when the hospital governors discontinued small-pox inoculation.

A committee of Parliament was now appointed to consider the claims of Jenner upon the gratitude of his country. It was clearly proved that he had converted into scientific demonstration a tradition of the peasantry. Two parliamentary grants, of £10,000 and £20,000, were voted to him. In 1808 the National Vaccine Establishment was formed by Government, and placed under his direction. Honors were profusely showered upon him by various foreign princes, as well as by the principal learned bodies of Europe.

Dr. Jenner passed the remainder of his years principally at Berkeley and at Cheltenham, continuing to the last his inquiries on the great object of his life. He died at Berkeley, in February, 1823, at the green old age of seventy-four: his remains lie in the chancel of the parish church of Berkeley. A marble statue by Sievier has been erected to his memory in the nave of Gloucester Cathedral; and another statue of him has been placed in a public building at Cheltenham. Five medals have been struck in honor of Jenner: three by the German nation; one by the surgeons of the British navy; and the fifth by the London Medical Society.

Dr. Jenner was endowed with a rare quality of mind, which it may be both interesting and beneficial to sketch. A singular originality of thought was his leading characteristic. He appeared to have naturally inherited what in others is the result of protracted study. He seemed to think from originality of per-

THE FIRST VACCINATION—DR. JENNER

BY

GEORGES-GASTON MÉLINGUE

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BY

GEORGES GASTON MELINGUE

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ception alone, and not from induction. He arrived by a glance at inferences which would have occupied the laborious conclusions of most men. In human and animal pathology, in comparative anatomy, and in geology, he perceived facts and formed theories instantaneously, and with a spirit of inventive penetration which distanced the slower approaches of more learned men. But if his powers of mind were singularly great, the qualities which accompanied them were still more felicitous. He possessed the most singular amenity of disposition with the highest feeling, the rarest simplicity united to the highest genius. In the great distinction and the superior society to which his discovery introduced him, the native cast of his character was unchanged. Among the great monarchs of Europe, who, when in Great Britain, solicited his acquaintance, he was the unaltered Dr. Jenner of his birthplace. In the other moral points of his character, affection, friendship, beneficence, and liberality were pre-eminent. In religion, his belief was equally remote from laxity and fanaticism; and he observed to an intimate friend, not long before his death, that he wondered not that the people were ungrateful to him for his discovery, but he was surprised that they were ungrateful to God for the benefits of which he was the humble means.

ROBERT FULTON*

By Oliver Optic

(1765–1815)

Very few inventors have achieved success in giving to the world new or improved methods of carrying on the business of life without long and hard study, repeated experiments and failures, and trying struggles with opposing elements. Many have labored through long years of poverty and obscurity to dazzle their fellow-beings in the end by the triumph of genius. The idea of an inventor has almost become coupled with that of anxiety, patient or impatient waiting, trials, and hardships. They are usually enthusiasts in the special pursuit to which they devote themselves, and the coldness and incredulity of those whose approval they seek to win, wear heavily upon them. The chilling common-sense of men more practical than themselves overwhelms them.

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If the wonderful improvements of the present and the past age could be placed in comparison with the attempts, the struggles, to accomplish what has now been achieved, the list of failures would far outnumber that of successes. Many of those who have rendered priceless blessings to their own and after generations by the production of wonderful machines or methods from the fine fibre of their brains, were plundered and buffeted, even in the midst of their grand successes, to such a degree that it requires a lofty comprehension to determine whether their lives were triumphs or defeats. Sometimes the failure of one generation becomes the success of the next.

Born the same year that gave Robert Fulton to the world was Eli Whitney, who really made "cotton king," so that the great staple of the South yielded millions upon millions of dollars to the planters; but he might have died a beggar, so far as his marvellous invention affected his fortunes. Before he had fully completed his machine for separating the seeds from the cotton, which only two persons had been permitted to see, his workshop was broken open, and it was stolen. His idea was incorporated in other machines before he had obtained his patent, though it was only his own that transmuted cotton into gold. False reports, the repudiation of contracts for royalties fairly made, the refusal of Congress, through Southern influence, to renew his patent, constant litigation to protect his rights, harassed his life, and robbed him of the pecuniary results of his success. Defeated, he gave up the battle, devoted his attention to the manufacture of firearms, and finally made a fortune in this business. Fulton's experience was not very different.

On the other hand, important discoveries in methods and mechanical appliances have been made by accident, as it were, and fortunes accrued from very little labor or study; but these are the exceptions rather than the rule.

It would be difficult to estimate the influence upon the prosperity of the United States of steam-navigation. It came but a few years after the organization of the Federal Government, when the greater portion of the territorial extent of the country was a wilderness, and preceded the general use of railroads by a quarter of a century. Transportation on the inland waters of the nation was slow, difficult, and expensive, and the introduction of the steamboat upon its great lakes and rivers, notably upon the latter, was a new era in its history. On the great streams of the West flatboats floated for weeks, laden with the productions of the States, on their way to a market, where days or hours are sufficient at the present time. Between the metropolis of the nation and the capital of New York, the sloops, which were the only means of communication by water, required an average of four days to make the trip of about one hundred and fifty miles, while to-day it is accomplishd in half a day or less.

Now all the navigable rivers of the country are alive with steamboats, and the growth and development of the States have been mainly indebted to the introduction of steam navigation. On the great lakes, though more available for transportation by means of sailing vessels, the same powerful agency has achieved wonders, and all of them are now covered by lines of steamers, by which, either

as tow-boats or independent vessels, a large proportion of the inland commerce of the nation is carried on. On the ocean the result of the introduction of steam-navigation is even more impressive, and nations separated by thousands of miles of rolling billows now join hands, as it were, with hearts commercially united, if not more intimately, through the medium of peace-giving commerce, of which thousands of gigantic steamers are the angel-messengers. On the Atlantic a score or more of them leave the one side for the other every week, and at the present time a merchant may breakfast in New York on Saturday, and dine in London the next Saturday.

It is now conceded, both in Europe and America, that the world is indebted to Robert Fulton for the practical application of steam to the purposes of navigation. Whatever has been claimed for or by others in regard to the priority of the invention or application of the mighty power of steam to the propulsion of vessels, Fulton was "the first to apply it with any degree of practical success," as an English work states it. As one who labored for years over the idea which came from his own brain, though it also came to others, who wellnigh sacrificed his own life in its improvement, and who achieved the crowning glory of its utility, he is certainly entitled to be regarded and honored as the Father of Steam-Navigation.

Robert Fulton was born in a small village near Lancaster, in the State of Pennsylvania, in the year 1765. He was the son of a poor man of Scotch-Irish descent, who died when his son was only three years old. He obtained only a common-school education, which he afterward increased by his own efforts. He early manifested a taste for, and considerable skill in, drawing and painting, and he selected this art as his profession, though he was more inclined to mechanical occupations, and spent his leisure hours in the shops of the workmen in his vicinity. He was somewhat precocious in his development, and at the age of seventeen he established himself as a portrait painter. He could hardly have attained to any high standard in art, though it appears that he had considerable success in his occupation, for at the age of twenty-one he had purchased a small farm in the western part of the State, where he placed his mother, indicating that he had a proper filial regard for the welfare of his remaining parent. It was evident from this success that he had decided talent and that it attracted the attention of others.

He was advised to visit England and place himself under the tuition of Benjamin West, the eminent American painter, who had achieved distinguished success in art. He followed this advice, was kindly received by the great artist, and remained as an inmate of his home for some years. In the palaces and mansions of the British nobility were treasured up many of the most noted pictures of the day and of the past. In order to see, study, and copy these, Fulton procured letters of introduction which gave him admission to these paintings. He resided for some time in the stately mansions of the Duke of Bridgewater and Earl Stanhope. Both of these peers were largely interested in making internal improvements in England, especially in promoting inland navigation by canals.

The duke was the possessor of immense wealth, and he had invested largely in companies connected with the canal system. Through him Fulton became interested in the same subject, and his mechanical tastes and talent drew him in that direction. The result was that he abandoned his easel and became a civil engineer, a profession hardly known by that name in the early part of this century. Earl Stanhope was also of a mechanical turn of mind, and had projected some important enterprises. At that time he was engaged upon a scheme which afterward filled up so much of the existence of Fulton—the application of steam to navigation.

The earl had devised a method of accomplishing the result, and had caused a small craft to be built which was to be propelled by a series of floats, by some compared to the paddles of a canoe, and by others to the feet of water-fowls. He described his plan to Fulton, who did not regard it as practicable, and stated plainly the reasons for his belief. The earl clung to his idea, highly as he appreciated the talents of the critic. The inventor resided at Birmingham about two years, and was employed in a subordinate capacity at his newly adopted profession for the greater portion of the time. In this city he made the acquaintance of Watt, who had developed the steam-engine from a mere pumping-machine to something near what it is at the present time.

Fulton's inventive genius was exercised during his residence at Birmingham, and he devised an improvement of the machine for sawing marble, from which he reaped both honor and profit. He produced a machine for spinning flax, and for the manufacture of ropes, and also one for excavating canals or river bottoms, for which purpose many such are now in use. As an author he wrote a work on canals, and published a treatise on the same subject in a London paper. He had a plan for the use of inclined planes in changing the level of the water for boats on canals, in place of locks, after the manner of the Chinese, claiming that greater elevations could be overcome in this manner; but it was never adopted.

In 1797 Fulton went to Paris, where he resided seven years, as the terrors of the French Revolution were passing away. At this period he had invented what is now called a torpedo, largely used in modern warfare for the protection of harbors. He devised a submarine boat to operate these destructive weapons, which was not a success. He demonstrated what he claimed for the torpedo in the destruction of a brig of two hundred tons; but he failed to procure the adoption of this more modern engine of warfare by either France or England, and he had the honor to be snubbed by Napoleon I. In 1806 he returned to New York, where he labored for the recognition and introduction of the torpedo. He was encouraged by Jefferson and Madison, and Congress appropriated money for experiments; but the naval officers reported against him, and nothing came of his efforts.

In Paris he had made the acquaintance of Chancellor Livingston, then the American minister to France, who was interested in Fulton's work, and who soon entered into business relations with him in connection with it. He was a man of abundant fortune, while the inventor was comparatively poor; occupied an

elevated social position, and was a person of great influence. He obtained a grant of the monopoly of steam-navigation from the State of New York. Fulton took out two patents for his invention ; but unfortunately they were not adequate to his protection, for they covered only the application of the steam-engine to the turning of a crank in producing the rotary motion of the paddle-wheels.

While in England Fulton had contracted with Watt for the building of such an engine as he desired, without stating the purpose for which it was to be used. This engine reached New York at about the same time as the inventor. He made his plans for the construction of the boat, which was to be of different form and proportions from ordinary vessels, and it was completed and fitted out with its engine during the year following his return. Not long before this event, when he found the sum of money Mr. Livingston had provided to complete the steamboat was nearly exhausted, Fulton attempted to sell an interest in his exclusive grant in order to raise funds to supply the deficiency ; but so little faith existed in the success of his enterprise that he could find no one who had the courage to purchase it. But the vessel was finished, and a trial trip was made in her, to which gentlemen of science and general intelligence were invited, most of them, like the rest of the world, sceptics and unbelievers. A few minutes served to satisfy these men that the steamboat was a success, and that the problem of steam-navigation had been solved in its favor. It was the hour of Fulton's triumph.

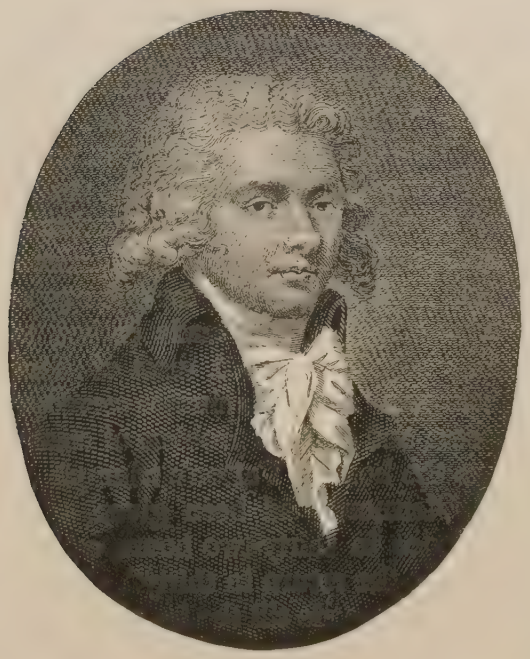
The strange craft, to which the name of Clermont had been given, soon made a trip to Albany, accomplishing the distance in thirty-two hours, or one-third of the average time of the sloops, and making the return in thirty. Doubters and cavillers were silenced, and regular trips were made till the ice closed the river for the season. During the winter the Clermont was lengthened to one hundred and forty feet, improved in many respects, gaudily painted, and looked upon as a "floating palace." Another steamboat, called the Car of Neptune, was built, and soon a contract for five more was placed. The practical triumph had been achieved, and from that small beginning has come forth the mighty steam-marine of the present time.

Fulton was married to Miss Harriet Livingston, a niece of the Chancellor, and was the father of four children. His business affairs were in anything but a prosperous condition. The State of New Jersey contested his monopoly, which proved to have been unconstitutionally granted. Fitch, or his successors, who had made some successes in the same line, endeavored to supplant him, and his patents were worthless. He was embarrassed by constant litigation, and his last years were full of trials and anxiety. He died February 24, 1815, at the age of fifty.

William T. Adams

WILLIAM WILBERFORCE

(1759–1833)



WILLIAM WILBERFORCE, whose name a heartfelt, enlightened, and unwearied philanthropy, directing talents of the highest order, has enrolled among those of the most illustrious benefactors of mankind, was born August 24, 1759, in Hull, England, where his ancestors had been long and successfully engaged in trade. By his father's death he was left an orphan at an early age. He received the chief part of his education at the grammar school of Pockington, in Yorkshire, and at St. John's College, Cambridge, of which he became a fellow-commoner about 1776 or 1777. When just of age, and apparently before taking his B.A. degree, he was returned for his native town at the general election of 1780. In 1784 he was returned again, but being also chosen member for Yorkshire he elected to sit for that great county, which he continued to represent until the year 1812, during six successive Parliaments. From 1812 to 1825, when he retired from Parliament, he was returned by Lord Calthorpe for the borough of Bramber. His politics were in general those of Mr. Pitt's party, and his first prominent appearance was in 1783, in opposition to Mr. Fox's India Bill. In 1786 he introduced and carried through the Commons a bill for the amendment of the criminal code, which was roughly handled by the Lord Chancellor, Thurlow, and rejected in the House of Lords without a division.

At the time when Mr. Wilberforce was rising into manhood, the inquiry into the slave trade had engaged in a slight degree the attention of the public. To the Quakers belongs the high honor of having taken the lead in denouncing that unjust and unchristian traffic. At the beginning of the eighteenth century, during the life of Penn, the Quakers of Pennsylvania passed a censure upon it, and from time to time the Society of Friends expressed their disapprobation of the deportation of negroes, until, in 1761, they completed their good work by a resolution to disown all such as continued to be engaged in it. Occasionally the question was brought before magistrates, whether a slave became entitled to his liberty upon landing in England. In 1765 Granville Sharp came forward as the protector of a negro, who, having been abandoned and cast upon the world in

disease and misery by his owner, was healed and assisted through the charity of Mr. Sharp's brother. Recovering his value with his health, he was claimed and seized by his master, and would have been shipped to the colonies, as many Africans were, but for the prompt and resolute interference of Mr. Sharp. In several similar cases the same gentleman came forward successfully; but the general question was not determined, or even argued, until 1772, when the celebrated case of the negro Somerset was brought before the Court of King's Bench, which adjudged, after a deliberate hearing, that in England the right of the master over the slave could not be maintained. The general question was afterward, in 1778, decided still more absolutely by the Scotch Courts, in the case of Wedderburn *vs.* Knight. In 1783 an event occurred well qualified to rouse the feelings of the nation, and call its attention to the atrocities of which the slave trade was the cause and pretext. An action was brought by certain underwriters against the owners of the ship Zong, on the ground that the captain had caused 132 weak, sickly slaves to be thrown overboard for the purpose of claiming their value, for which the plaintiffs would not have been liable if the cargo had died a natural death. The fact of the drowning was admitted, and defended on the plea that want of water had rendered it necessary, though it appeared that the crew had not been put upon short allowance. It now seems incredible that no criminal proceeding should have been instituted against the perpetrators of this wholesale murder.

In 1785 the Vice-chancellor of Cambridge proposed as the subject for the Bachelor's Prize Essay, the question, Is it allowable to enslave men without their consent? Thomas Clarkson, who had gained the prize in the preceding year, again became a candidate. Conceiving that the thesis, though couched in general terms, had an especial reference to the African slave trade, he went to London to make inquiries on the subject. Investigation brought under his view a mass of cruelties and abominations which engrossed his thoughts and shocked his imagination. By night and day they haunted him; and he has described in lively colors the intense pain which this composition, undertaken solely in the spirit of honorable rivalry, inflicted on him. He gained the prize, but found it impossible to discard the subject from his thoughts. In the succeeding autumn, after great struggles of mind, he resolved to give up his plan for entering the Church, and devoted time, health, and substance (to use his own words) to "seeing these calamities to an end." In sketching the progress of this great measure, the name of Wilberforce alone will be presented to view; and it is our duty, therefore, in the first place, to make honorable mention of him who first roused Wilberforce in the cause, and whose athletic vigor and indomitable perseverance surmounted danger, difficulties, fatigues, and discouragements which few men could have endured, in the first great object of collecting evidence of the cruelties habitually perpetrated in the slave trade.

In the first stage of his proceedings, Mr. Clarkson, in the course of his application to members of Parliament, called on Mr. Wilberforce, who stated that "the subject had often employed his thoughts and was near his heart." He in-

quired into the authorities for the statements laid before him, and became not only convinced of, but impressed with, the paramount duty of abolishing so hateful a traffic. Occasional meetings of those who were alike interested were held at his house; and in May, 1787, a committee was formed, of which Wilberforce became the Parliamentary leader. Early in 1788 he gave notice of his intention to bring the subject before the House; but, owing to his severe indisposition, that task was ultimately undertaken by Mr. Pitt, who moved and carried a resolution, pledging the House in the ensuing session to enter on the consideration of the subject. Accordingly, May 12, 1789, Mr. Wilberforce moved a series of resolutions, founded on a report of the Privy Council, exposing the iniquity and cruelty of the traffic in slaves, the mortality which it occasioned among white as well as black men, and the neglect of health and morals by which the natural increase of the race in the West India islands was checked; and concluding with a declaration that if the causes by which that increase was checked were removed, no considerable inconvenience would result from discontinuing the importation of African slaves. Burke, Pitt, and Fox supported the resolutions. Mr. Wilberforce's speech was distinguished by eloquence and earnestness, and by its unanswerable appeals to the first principles of justice and religion. The consideration of the subject was ultimately adjourned to the following session. In that, and in two subsequent sessions, the motions were renewed; and the effect of pressing such a subject upon the attention of the country was to open the eyes of many who would willingly have kept them closed, yet could not deny the existence of the evils so forced on their view. In 1792 Mr. Wilberforce's motion for the abolition of the slave trade was met by a proposal to insert in it the word "gradually;" and, in pursuance of the same policy, Mr. Dundas introduced a bill to provide for its discontinuance in 1800. The date was altered to 1796, and in that state the bill passed the Commons, but was stopped in the Upper House by a proposal to hear evidence upon it. Mr. Wilberforce annually renewed his efforts, and brought every new argument to bear upon the question which new discoveries, or the events of the times, produced. In 1799 the friends of the measure resolved on letting it repose for awhile, and for five years Mr. Wilberforce contented himself with moving for certain papers; but he took an opportunity of assuring the House that he had not grown cool in the cause, and that he would renew the discussion in a future session. On May 30, 1804, he once more moved for leave to bring in his bill for the abolition of the slave trade, in a speech of great eloquence and effect. He took the opportunity of making a powerful appeal to the Irish members, before whom, in consequence of the Union, this question was now for the first time brought, and the greater part of whom supported it. The decision showed a majority of 124 to 49 in his favor; and the bill was carried through the Commons, but was again postponed in the House of Lords. In 1805 he renewed his motion; but on this occasion it was lost in the Commons by over-security among the friends of the measure. But when Mr. Fox and Lord Granville took office in 1806, the abolition was brought forward by the ministers, most of whom supported it, though it was not

made a government question in consequence of several members of the cabinet opposing it. The attorney-general (Sir A. Pigott) brought in a bill, which was passed into a law, prohibiting the slave trade in the conquered colonies, and excluding British subjects from engaging in the foreign slave trade; and Mr. Fox, at Mr. Wilberforce's special request, introduced a resolution pledging the House to take the earliest measures for effectually abolishing the whole slave trade. This resolution was carried by a majority of 114 to 15; and January 2, 1807, Lord Granville brought forward, in the House of Lords, a bill for the abolition of the slave trade, which passed safely through both Houses of Parliament. As, however, the king was believed to be unfriendly to the measure, some alarm was felt by its friends, lest its fate might still be affected by the dismissal of the ministers, which had been determined upon. Those fears were groundless; for though they received orders to deliver up the seals of their offices on March 25th, the royal assent was given by commission by the Lord Chancellor Erskine on the same day; and thus the last act of the administration was to conclude a contest, maintained by prejudice and interest during twenty years, for the support of what Mr. Pitt denominated "the greatest practical evil that ever afflicted the human race."

Among other testimonies to Mr. Wilberforce's merits, we are not inclined to omit that of Sir James Mackintosh, who in his journal, May 23, 1808, speaks thus of Wilberforce on the "Abolition." This refers to a pamphlet on the slave trade which Mr. Wilberforce had published in 1806: "Almost as much enchanted by Mr. Wilberforce's book as by his conduct. He is the very model of a reformer. Ardent without turbulence, mild without timidity or coolness; neither yielding to difficulties nor disturbed or exasperated by them; patient and meek yet intrepid; persisting for twenty years through good report and evil report; just and charitable even to his most malignant enemies; unwearied in every experiment to disarm the prejudices of his more rational and disinterested opponents, and supporting the zeal, without dangerously exciting the passions of his adherents."

The rest of Mr. Wilberforce's parliamentary conduct was consistent with his behavior on this question. In debates chiefly political he rarely took a forward part; but where religion and morals were directly concerned, points on which few cared to interfere, and where a leader was wanted, he never shrunk from the advocacy of his opinions. He was a supporter of Catholic emancipation and parliamentary reform; he condemned the encouragement of gambling, in the shape of lotteries established by government; he insisted on the cruelty of employing boys of tender age as chimney-sweepers; he attempted to procure a legislative enactment against duelling, after the hostile meeting between Pitt and Tierney; and on the renewal of the East India Company's charter in 1816, he gave his zealous support to the propagation of Christianity in Hindostan, in opposition to those who, as has been more recently done in the West Indies, represented the employment of missionaries to be inconsistent with the preservation of the British empire. It is encouraging to observe that, with the exception of the one

levelled against duelling, all these measures, however violently opposed and unfairly censured, have been carried in a more or less perfect form.

As an author, Mr. Wilberforce's claim to notice is chiefly derived from his treatise entitled "A Practical View of the Prevailing Religious System of Professing Christians in the Higher and Middle Classes in this Country, Contrasted with Real Christianity." The object of it was to show that the standard of life generally adopted by those classes not only fell short of, but was inconsistent with, the doctrines of the gospel. It has justly been applauded as a work of no common courage, not from the asperity of its censures, for it breathes throughout a spirit of gentleness and love, but on the joint consideration of the unpopularity of the subject and the writer's position. The Bishop of Calcutta, in his introductory essay, justly observes that "the author, in attempting it, risked everything dear to a public man and a politician as such, consideration, weight, ambition, reputation." And Scott, the divine, one of the most fearless and ardent of men, viewed the matter in the same light; for he wrote: "Taken in all its probable effects, I do sincerely think such a stand for vital Christianity has not been made in my memory. He has come out beyond my expectations." Of a work so generally known we shall not describe the tendency more at large. It is said to have gone through about twenty editions in Britain, since the publication in 1797, and more in America; and to have been translated into most European languages.

In the discharge of his parliamentary duties, Mr. Wilberforce was punctual and active beyond his apparent strength; and those who further recollect his diligent attendance on a vast variety of public meetings and committees connected with religious and charitable purposes, will wonder how a frame naturally weak should so long have endured the wear of such exertion. In 1788, when his illness was a matter of deep concern to the Abolitionists, Dr. Warren said that he had not stamina to last a fortnight. No doubt his bodily powers were greatly aided by the placid and happy frame of mind which he habitually enjoyed; but it is important to relate his own opinion, as delivered by an ear-witness, on the physical benefits which he derived from a strict abstinence from temporal affairs on Sundays: "I have often heard him assert that he never could have sustained the labor and stretch of mind required in his early political life, if it had not been for the rest of his Sabbath; and that he could name several of his contemporaries in the vortex of political cares, whose minds had actually given way under the stress of intellectual labor so as to bring on a premature death or the still more dreadful catastrophe of insanity and suicide, who, humanly speaking, might have been preserved in health, if they would but conscientiously have observed the Sabbath."

In 1797 Mr. Wilberforce married Miss Spooner, daughter of an eminent banker at Birmingham. Four sons survived him. He died, after a gradual decline, July 29, 1833, in Cadogan Place. He directed that his funeral should be conducted without the smallest pomp; but his orders were disregarded, in compliance with a memorial addressed to his relatives by many of the most distin-

guished men of all parties, and couched in the following terms: "We, the undersigned Members of both Houses of Parliament, being anxious, upon public grounds, to show our respect for the memory of the late William Wilberforce, and being also satisfied that public honors can never be more fitly bestowed than upon such benefactors of mankind, earnestly request that he may be buried in Westminster Abbey, and that we and others who may agree with us in these sentiments may have permission to attend his funeral." The attendance of both Houses was numerous. Mr. Wilberforce was interred within a few yards of his great contemporaries, Pitt, Fox, and Canning.

SIR HUMPHRY DAVY

By John Timbs, F.S.A.

(1778–1829)

The boyhood of Davy has been sketched in some of the most fascinating pieces of biography ever written: the annals of science do not furnish us with any record that equals the school-days and self-education of the boy, Humphry, in popular interest; and, unlike many bright mornings, this commencement in a few years led to a brilliant meridian, and, by a succession of discoveries, accomplished more in relation to change of theory and extension of science, than in the most ardent and ambitious moments of youth he could either hope to effect or imagine possible.

Humphry Davy was born at Penzance, in 1778; was a healthy, strong, and active child, and could speak fluently before he was two years old; copied engravings before he learned to write, and could recite part of the "Pilgrim's Progress" before he could well read it. At the age of five years, he could gain a good account of the contents of a book while turning over the leaves; and he retained this remarkable faculty through life. He excelled in telling stories to his playmates; loved fishing, and collecting, and painting birds and fishes; he had his own little garden; and recorded his impressions of romantic scenery in verse of no ordinary merit. To his self-education, however, he owed almost everything. He studied with intensity mathematics,

metaphysics, and physiology; before he was nineteen he began to study chemistry, and in four months proposed a new hypothesis on heat and light, to which he won over the experienced Dr. Beddoes. With his associate, Gregory Watt (son of the celebrated James Watt) he collected specimens of rocks and minerals. He made considerable progress in medicine; he experimented zealously, especially on the effects of the gases in respiration; at the age of twenty-one he had breathed nitrous oxide, and nearly lost his life from breathing carburetted hydrogen. Next year he commenced the galvanic experiments which led to some of his greatest discoveries. In 1802 he began his brilliant scientific career at the Royal Institution, where he remained till 1812; here he constructed his great voltaic battery of 2,000 double plates of copper and zinc, and commenced the mineralogical collection now in the Museum. His lectures were often attended by one thousand persons: his youth, his simplicity, his natural eloquence, his chemical knowledge, his happy illustrations and well-conducted experiments, and the auspicious state of science, insured Davy great and instant success.

The enthusiastic admiration with which he was hailed can hardly be imagined now. Not only men of the highest rank—men of science, men of letters, and men of trade—but women of fashion and blue-stockings, old and young, pressed into the theatre of the Institution to cover him with applause. His greatest labors were his discovery of the decomposition of the fixed alkalies, and the re-establishment of the simple nature of chlorine; his other researches were the investigation of astringent vegetables in connection with the art of tanning; the analysis of rocks and minerals in connection with geology; the comprehensive subject of agricultural chemistry; and galvanism and electro-chemical science. He was also an early, but unsuccessful, experimenter in the photographic art.

Of the lazy conservative spirit and ludicrous indolence in science, which at this time attempted to hoodwink the public, a quaint instance is recorded of a worthy professor of chemistry at Aberdeen. He had allowed some years to pass since Davy's brilliant discovery of potassium and its congeneric metals, without a word about them in his lectures. At length the learned doctor was concussed by his colleagues on the subject, and he condescended to notice it. "Both potash and soda are now said to be metallic oxides," said he; "the oxides, in fact, of two metals, called potassium and sodium by the discoverer of them, one Davy, in London, a verra troublesome person in chemistry."

Turn we, however, to the brightest event in our chemical philosopher's career. By his unrivalled series of practical discoveries, Davy acquired such a reputation for success among his countrymen, that his aid was invoked on every great occasion. The properties of fire-damp, or carburetted hydrogen, in coal-mines had already been ascertained by Dr. Henry. When this gas is mingled in certain proportions with atmospheric air, it forms a mixture which kindles upon the contact of a lighted candle, and often explodes with tremendous violence, killing the men and horses, and projecting much of the contents of the mine through the shafts or apertures like an enormous piece of artillery. At this time, a detonation of

fire-damp occurred within a coal-mine in the north of England, so dreadful that it destroyed more than a hundred miners. A committee of the proprietors besought our chemist to provide a method of preparing for such tremendous visitations; and he did it. He tells us that he first turned his attention particularly to the subject in 1815; but he must have been prepared for it by the researches of his early years. Still, there appeared little hope of finding an efficacious remedy. The resources of modern mechanical science had been fully applied in ventilation. The comparative lightness of fire-damp was well understood; every precaution was taken to preserve the communications open; and the currents of air were promoted or occasioned, not only by furnaces, but likewise by air-pumps and steam apparatus. We may here mention that, for giving light to the coal-miner or pitman, where the fire-damp was apprehended, the primitive contrivance was a steel-mill, the light of which was produced by contact of a flint with the edge of a wheel kept in rapid motion. A "safety-lamp" had already, in 1813, been constructed by Dr. Clanny, the principle of which was forcing in air through water by bellows; but the machine was ponderous and complicated, and required a boy to work it. M. Humboldt had previously, in 1796, constructed a lamp for mines upon the same principle as that of Dr. Clanny.

Davy, having conceived that flame and explosion may be regulated and arrested, began a minute chemical examination of fire-damp. He found that carburetted-hydrogen gas, even when mixed with fourteen times its bulk of atmospheric air, was still explosive. He ascertained that explosions of inflammable gases were incapable of being passed through long, narrow metallic tubes; and that this principle of security was still obtained by diminishing their length and diameter at the same time, and likewise diminishing their length and increasing their number, so that a great number of small apertures would not pass explosion when their depth was equal to their diameter. This fact led to trials upon sieves of wire-gauze; he found that if a piece of wire-gauze was held over the flame of a lamp, or coal-gas, it prevented the flame from passing; and he ascertained that a flame confined in a cylinder of very fine wire-gauze did not explode even in a mixture of oxygen and hydrogen, but that the gases burned in it with great vivacity. These experiments served as the basis of the safety-lamp.

Sir Humphry Davy presented his first communication respecting his discovery of the safety-lamp to the Royal Society in 1815. This was followed by a series of papers, crowned by that read on January 11, 1816, when the principle of the safety-lamp was announced, and Sir Humphry presented to the society a model made by his own hands, which is to this day preserved in the collection of the Royal Society at Burlington House.

There have been several modifications of the safety-lamp, and the merit of the discovery has been claimed by others, among whom was Mr. George Stephenson; but the question was set at rest in 1817 by an examination, attested by Sir Joseph Banks, P.R.S., Mr. Brande, Mr. Hatchett, and Dr. Wollaston, and awarding the independent merit to Davy.

It should be explained that Stephenson's lamp was formed on the principle of

admitting the fire-damp by narrow tubes, and "in such small detached portions that it would be consumed by combustion." The two lamps were doubtless distinct inventions; though Davy, in all justice, appears to be entitled to precedence, not only in point of date, but as regards the long chain of inductive reasoning concerning the nature of flame by which his result was arrived at.

Meanwhile, the Report by the Parliamentary Committee "cannot admit that the experiments (made with the lamp) have any tendency to detract from the character of Sir Humphry Davy, or to disparage the fair value placed by himself upon his invention. The improvements are probably those which longer life and additional facts would have induced him to contemplate as desirable, and of which, had he not been the inventor, he might have become the patron."

"I value it," Davy used to say, with the kindliest exultation, "more than anything I ever did; it was the result of a great deal of investigation and labor; but if my directions be attended to, it will save the lives of thousands of poor men."

The principle of the invention may be thus summed up: In the safety-lamp, the mixture of the fire-damp and atmospheric air within the cage of wire-gauze explodes upon coming in contact with the flame; but the combustion cannot pass through the wire-gauze; and being there imprisoned, cannot impart to the explosive atmosphere of the mine any of its force. This effect has been attributed to the cooling influence of the metal; but, since the wires may be brought to a degree of heat but little below redness without igniting the fire-damp, this does not appear to be the cause.

Professor Playfair has elegantly characterized the safety-lamp of Davy as a present from philosophy to the arts, a discovery in no degree the effect of accident or chance, but the result of patient and enlightened research, and strongly exemplifying the great use of an immediate and constant appeal to experiment. After characterizing the invention as the *shutting-up in a net of the most slender texture* of a most violent and irresistible force, and a power that in its tremendous effects seems to emulate the lightning and the earthquake, Professor Playfair thus concludes: "When to this we add the beneficial consequences, and the saving of the lives of men, and consider that the effects are to remain as long as coal continues to be dug from the bowels of the earth, it may be fairly said that there is hardly in the whole compass of art or science a single invention of which one would rather wish to be the author. . . . This," says Professor Playfair, "is exactly such a case as we should choose to place before Bacon, were he to revisit the earth; in order to give him, in a small compass, an idea of the advancement which philosophy has made since the time when he had pointed out to her the route which she ought to pursue."

Honors were showered upon Davy. He received from the Royal Society the Copley, Royal, and Rumford Medals, and several times delivered the Bakerian Lecture. He also received Napoleon's prize for the advancement of galvanic researches from the French Institute. The invention of the safety-lamp brought him the public gratitude of the united colliers of Whitehaven, of the coal proprietors of the north of England, of the grand jury of Durham, of the Chamber

of Commerce at Mons, of the coal-miners of Flanders, and, above all, of the coal-owners of the Wear and the Tyne, who presented him (it was his own choice) with a dinner-service of silver worth £2,500. On the same occasion, Alexander, the Emperor of all the Russias, sent him a vase, with a letter of commendation. In 1817, he was elected to the dignity of an associate of the Institute of France; next year, at the age of forty, he was created a baronet.

Davy's discoveries form a remarkable epoch in the history of the Royal Society during the early part of this century; and from 1821 to 1829 almost every volume of the *Transactions* contains a communication by him. He was president of the Royal Society from 1820 to 1827.

Fond of travel, geology, and sport, Davy visited, for the purpose of mineralogy and angling, almost every county of England and Wales. He was provided with a portable laboratory, that he might experiment when he chose, as well as fish and shoot. In 1827, upon resigning the presidency of the Royal Society, he retired to the continent; in 1829, at Geneva, his palsy-stricken body returned to the dust. They buried him at Geneva, where a simple monument stands at the head of the hospitable grave. There is a tablet to his memory in Westminster Abbey; there is a monument at Penzance; and his widow founded a memorial chemical prize in the University of Geneva. His public services of plate, his imperial vases, his foreign prizes, his royal medals, shall be handed down with triumph to his collateral posterity as trophies won from the depths of nescience; but his work, designed by his own genius, executed by his own hand, tracery and all, and every single stone signalized by his own private mark, indelible, characteristic, and inimitable—his work is the only record of his name. How deeply are its foundations rooted in space, and how lasting its materials for time!

GENERAL SAN MARTIN*

By Hezekiah Butterworth

(1778–1850)

"Seras lo que debes ser,
Y sino, no seras nada."
San Martin.

San Martin, the ideal liberator of South America from the long and tyrannical rule of Spanish viceroys, was one of the most remarkable men of his own or of any age. From a moral point of view he stands in the first rank of the world's heroes. "He was not a man," said a student of South American history, "he was a mission." Cincinnatus, after serving the state, returned to the plough, and Washington to the retirement of Mt. Vernon; but San Martin for the peace of his country went

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into voluntary exile. His country crowned him dead and made for his dead body a tomb of Peace, surrounded by the marble angels of the arts of human progress, more beautiful in its meaning than any tomb on the Appian Way, and one of the most wonderful memorials on earth.

The Battle of Maipú, of which San Martin was the victor, completed the emancipation of South America, and made the achievements of Bolivar easy in the Northern Andes. Said the hero of Maipú—and what words of man under the circumstances ever equalled the declaration in moral sublimity!—

"The presence of a fortunate general, however disinterested he may be, is dangerous to a newly founded state. I have achieved the independence of Peru: I have ceased to be a public man!" He died at Boulogne, France, in poverty, after nearly thirty years of exiled and fameless life. His career seems like that of some hero of fiction, such as the imagination of a Plato, a Bacon, or a Sir Thomas More might create for an Utopia. He is the one perfectly unselfish man in history, and his fame has grown steadily in Spanish America, since Argentina built a tomb-palace for his remains, and decreed for him one of the most splendid funerals ever known to the Western World.

General Don Joachim de la Pezuela, the last Spanish ruler of Peru, was the forty-fourth viceroy from Pizarro. "The Indians," he said, "love the memory of the Incas—the country is ready to rise." The banner of Argentina was putting to flight the condors of the Andes, and the last viceroy saw in its advance the end of Spain in the New World.

The Argentine hero who had created the army of the Andes for universal liberty was San Martin. He was born on February 25, 1778, at Yapeyu, in Misiones. His father was a South American officer under the last rule of the viceroys. The family removed to Spain in his boyhood, and he became for two years a pupil in the Seminary of Nobles, at Madrid. At the age of twelve he became a cadet, wearing a uniform of blue and white, which he made in manhood the colors of South American emancipation.

He fought in the war against the Moors, and in the campaign against France, in 1793. In 1800 he took part in the so-called "War of the Oranges against Portugal."

In the early part of the nineteenth century there began to be formed in Spain secret societies for the purpose of advancing the cause of liberty and human progress. One of these associations, called *Caballeros Racionales*, became very influential, and corresponded with the society of the Grand Reunion of America (*Gran Reunion Americana*) of London. This society was pledged "to recognize no government in America as legitimate unless it was elected by the free will of the people." San Martin joined this society. The London society was established by Miranda, the Spanish patriot, a friend of Bolivar, by whose inspirations San Martin became a disciple of liberty, and whose dreams he fulfilled long after the patriot was dead.

San Martin won honors and a medal in the Spanish resistance to the victorious eagles of Napoleon. In that campaign he fought under a banner of the

Sun, having this motto in Latin: "We bear this aloft dispersing the clouds." He made this banner the flag of the army of the Andes.

In 1812, San Martin, as a disciple of the principles of the Spanish apostle of liberty, Miranda, returned to South America, and in March went to Buenos Ayres, and offered his sword to the Argentine patriots for the cause of independence. The country was in revolution against the Spanish rule. San Martin was not only an American, but a Creole; he was unselfish, truthful, the soul of honor, and of all men in the world the one that would seem best fitted to lead the cause of the South American patriots. He was destined to become "the greatest of the Creoles of the New World."

Soon after the arrival of San Martin in Buenos Ayres he married Doña Remedios Esculada, and Mercedes, a daughter of this marriage, shared with him his voluntary exile after the conquest of Peru.

Appointed at once to a high military position under the Argentine Government, he conceived the plan of creating an army of the Andes, of crossing the Cordillera, and of driving the Spaniards from Chile.

Mendoza, with which Buenos Ayres is now connected by railroad, lies on an elevation under the snowy Cordilleras. San Martin made his military camp here. On January 17, 1817, he began his march up the Andes, one of the most perilous achievements of modern warfare. The summit of the Uspallata Pass, over which the army was to climb, is 12,500 feet above the level of the sea, or 4,000 feet higher than the Pass of St. Bernard.

The 17th, on which the army set forth, was a high holiday in Mendoza. The plaza was gay with banners, and the streets with patriotic decorations. The ladies of the city presented an embroidered flag to San Martin. The general, above whose head gleamed the snowy heights of the Andes, ascended a platform in the plaza, and waved this flag over his head, and shouted:

"Soldiers, behold the first flag of independence!"

There arose a great shout of "Viva la Patria!"

"Soldiers, swear to sustain it."

"We swear," answered the army, as one man.

Salvos of musketry and artillery followed. Mitre, in his "Life of San Martin," as presented to us in the condensed translation of Pilling, eloquently says that this flag rose "for the redemption of one-half of South America, passed the Cordilleras, waved in triumph along the Pacific coast, floated over the foundations of two new republics, aided in the liberation of another, and after sixty-four years served as a funeral pall to the body of the hero, who thus delivered it to the care of the immortal Army of the Andes."

The mountains rose above the departing army, piercing the sky in the fading day. Up they climbed, putting to flight the condors. The men suffered greatly from the rarefaction of the air. Even many of the animals of the expedition perished. Out of 9,261 mules, only 4,300 ever reached Chile.

"What spoils my sleep," said San Martin, on surveying the Andes at the outset of the expedition, "is not the strength of the enemy, but how to pass those

immense mountains." He might well say that, for before him gleamed peaks 21,000 feet high.

The army, with all its sufferings, triumphantly crossed the lower passes of the Cordilleras, and entered Chile. This march decided the fate of South America.

The army encamped upon the Sierra of Chacubuco, from the summit of which the whole of the magnificent country could be seen. Here rose the flag of liberation. The flower of the Spanish army, inferior in numbers, was near. On February 12th a battle was fought, and the royalists were defeated with a loss of 500 men killed, 600 taken prisoners, and all of their artillery.

The way was now open to Santiago, the capital. The army entered the city amid the acclamations of the people. The Chilian assembly met and offered San Martin the office of governor, with dictatorial power. But San Martin was not fighting for power, or honor, but for the liberties of his countrymen, and he nobly declined the office.

The guns of Buenos Ayres roared, and the city was turned into a festival, when the news of the triumph of the army of the Andes reached the coast. The Argentine Government offered to bestow on San Martin its highest honors, but the latter declined them, lest his work should be retarded and his motives of life should be misconstrued. It awarded to his daughter a life pension, which he devoted to her education.

Santiago offered to him 10,000 ounces of gold. He refused the splendid purse which he had so well won, but recommended that the money be used for the cause of popular education in the form of a public library.

Chile and Argentina now formed an alliance in defence of their liberties.

But the royal army was gathering force and unity. On March 31st, it numbered 5,500 men, and was prepared to make a final stand against the army of liberation.

There is a river in Chile which divides the country, named the Maipó, or Maipú. On its banks the royal army encamped on the first days of April, 1818. The patriot army was close at hand, and each army felt that the battle to follow would decide the fate of the movement for the independence of the South American empire.

It is April 5, 1818. The royal army is ready for action, and the patriots occupy the heights of Loma Blanca, overlooking the plains of the Maipú.

"Do not await a charge to-day," ordered San Martin; "*but charge* always within fifty paces!"

At the beginning of the action he said,

"I take the sun to witness that the day is ours."

Just then the sun, which had been clouded, shone from the heavens.

The royal army was defeated. That night of May 5th covered their flight, and the War of Independence was won.

San Martin began now to plan the liberation of Peru, and to create a navy for the purpose of commanding the ports of the golden mountains and rich plateaus of the incarial realms.

In August, 1820, he had gathered a patriot force of 4,500 men at Valparaiso, and was ready to embark for the conquest by sea. The army was composed of Argentines and Chilians. A former expedition had made the way of victory clear to the patriots. The fleet left Valparaiso August 21, 1820. The army landed in Peru and began operations near Lima.

San Martin began his Chilian campaign by the liberation of the slaves, whom he afterward found trusty soldiers. He began the Peruvian war by issuing a most noble manifesto to his countrymen, in which he said: "Ever since I came back to my native land, the independence of Peru has been present in my mind."

And again he grandly announced his future policy in nearly these words: "From the time that a government is established by the people of Peru, the army of the Andes will obey its orders."

The army of liberation was as successful in Peru as in Chile. The empire of the viceroys crumbled and fell. Amid the roar of cannon, the shouts of the people, and strewing of flowers, the independence of Peru was proclaimed on July 20, 1821, in the great square of Lima. San Martin, as in Chile, was offered the supreme authority under the title of the Protector of Peru. He made use of the office merely for the pacification of the country. He convened the first Congress in Peru, and to the new government he addressed the words, or words like those, that we have quoted at the beginning of this article. He saw that Bolivar was the man to complete the liberation and bring about the unity of South America. The cause was all to him: he was nothing.

To Bolivar he wrote: "My decision is irrevocable. I have convened the first Congress of Peru. The day of its installation I shall leave for Chile, convinced that my presence is the only obstacle that prevents you from coming to Peru."

He sent to Bolivar a parting gift, saying, "Receive this memento from the first of your admirers, and with my desire that you have the glory of finishing the war for the independence of South America."

The history of chivalry has no match for the character of San Martin. Bolivar united patriotism and vanity; San Martin's glory was self-abnegation. At a banquet where the two were present, Bolivar once offered the following toast: "To the two greatest men in South America—San Martin and *myself*."

San Martin followed with his toast. "To the speedy end of the war; to the establishment of the republics, and to the health of the Liberator of Colombia!"

The two toasts were photographs. Time is lifting the character of San Martin into its true place among glorious men. He was a man who fought for peace. His life fulfilled his own motto: "Thou shalt be what thou oughtest to be, or else thou shalt be nothing."

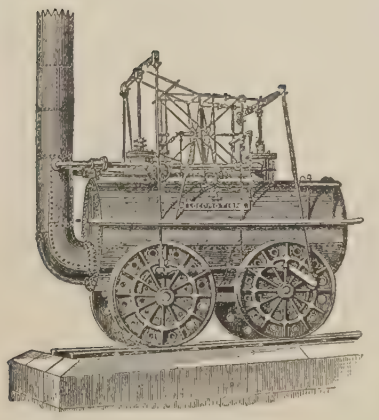
On critical occasions, his magnanimous soul rose to the sublimity of this motto, and to the end of his life of glory and poverty he was always able to say, "I have been what I ought!"

Hezekiah Butterworth

GEORGE STEPHENSON*

By Professor C. M. Woodward

(1781–1848)



FAR in the north of England, near the Scottish border, by the shore of the German Ocean, is the county of brown and barren hills called Northumberland, and its principal city, Newcastle, famous for its coal. There is another Newcastle near the centre of England, so this one is often distinguished by the name "Newcastle-on-Tyne"—Tyne being the blackest and dirtiest of all rivers.

A few miles from Newcastle, up the Tyne, is the little mining village of Wylam, where, a hundred years ago, lived Robert Stephenson and his wife Mabel. There was no style about Wylam, and few evidences of wealth or culture. The houses straggled about near the outlets of the coal-mines, and everything was as uninviting as it well could be. Stephenson's house, or rather "shanty," had but one room, and that had an earthen floor. Robert and Mabel were about as ill-furnished as their house; for neither could read, they had not a book nor a print, and neither knew much more of the world than could be seen, as they stood on the bank of the Tyne and looked about on the neighboring hills and down toward Newcastle. In 1892 I rode down the valley of the Tyne, past Wylam, through Newcastle, and over the high bridge that our fireman's grandson, Robert, built in later days. Few valleys are less attractive, and few seem less likely to be the birthplace of epoch-making men.

Robert Stephenson, the father of our hero, was a fireman, earning two shillings a day. He was sober and industrious, but as would be expected, he never "got on." He was a good story-teller, and transmitted to his children healthy bodies and clear heads. George was the second of six children, and he was born June 9, 1781, during our war for independence. His boyhood was uneventful enough. When the weather was cold he was cooped up in their narrow home; he was out of doors whenever the weather would permit. He played in the street, ran errands, carried his father's dinner, and herded cows, as soon as he was big enough, for four cents per day. At fourteen he was assistant-fireman, earning twenty-five cents a day, and at seventeen he was "plugman." He was thus in contact with much that had been achieved in the way of building engines and transporting materials on cars. But I must describe the engines then in use, and explain what it was to be a "plugman."

The coal-mines were so deep that, in spite of the valleys, they could be drained only by pumps, and it was often more difficult to keep the water out

* Copyright, 1894, by Selmar Hess.

than it was to lift the coal out. The steam-engine was then in a very incomplete condition, and both pumping- and lifting-engines were crude and clumsy affairs. To be sure Watt, the mathematical instrument-maker, had invented the double-acting steam-engine, but few had been manufactured, and those in common use were "atmospheric" engines, known as "Newcomen's" engines. A pumping-engine had a long, vertical cylinder, with arrangements for admitting steam at the top. The weight of the piston, piston-rod, and pump-rod, which ran down a shaft to the lowest point in the mine, being balanced by a counter-weight on a sort of well-sweep, the steam, admitted by hand, forced the piston to the bottom of the cylinder. The steam was then shut off, and a spray of water was turned on within the cylinder. This water condensed the steam and reduced the pressure within to almost nothing, so that the air pressure on the exterior face of the piston (which amounted to over a ton for every square foot of surface) drove the piston to the top of the cylinder, and lifted the full length of the stroke a large quantity of water.

It is evident that the office of engineer was not an easy one. It was all he could do to take care of the steam end of the pump; another man was needed to look after the lower end, where the pump-valve worked in another vertical cylinder. The water entered this cylinder through holes in the sides, some higher, some lower, according to the stage of water in the mine. The pumps did not run continuously, but they lowered the water to the bottom as often as it was necessary. As the level of the water in the mine fell, it was necessary to plug the upper holes in the pump cylinder; the man who watched the lower end and plugged those holes was known as the "plugman." It is difficult to conceive of a less inspiring occupation than that to which George Stephenson was promoted at the age of seventeen. Alone in the dark, chilled by the damp air, and wet by the black water, he was forced, by lack of other occupation, to note every mechanical detail of the machinery, and to study methods of improving it.

At the age of eighteen he heard of some wonderful engines made by Watt & Boulton, at their new factory, and was told that the engines were fully described and illustrated in books. So he determined to learn to read. He was encouraged in this resolve by stories that a French soldier, by the name of Napoleon Bonaparte, was sweeping everything before him on the continent of Europe, and that he was planning the subjugation of Great Britain. Information about Napoleon could be gained from printed newspapers if one could only read.

But where should he learn? There was no public school in Wylam; none of our hero's companions went to school; none of the people he associated with could read or write. However, he found a teacher in a young man by the name of Robert Cowens, of whom he took three lessons per week in the evening. He earned money for books and instruction by mending shoes and repairing clocks. He was handy with tools, and quick at seeing the relations of things. As soon as he could read and write he learned to cipher, taking a slateful of "sums," set by his teacher, to his work in the morning, to be "done" during

odd moments while watching his pump or engine, for he was soon advanced to the care of the steam end of the machine.

While young Stephenson, now grown a man, is thus busy with his primer, his copy-book, and "four rules," let us reflect upon the uncanny circumstances of his early life. He had no luxuries, few real comforts. The people around him lived half the time underground in mines that were dark, damp, and dangerous —in constant war with water and a poisonous, explosive, natural gas, known as "fire-damp." Above ground there was little that was attractive or educative. The young men had their games, at which George was fairly successful, for he was strong and active. The ale-house stood near by, and it absorbed most of the spare time and scant earnings of the miners; but it is said that young Stephenson avoided the saloon, and was never known to leave his work for a drink of liquor. On off-days he took his engine to pieces, examined its parts and the functions of each, and remedied small defects and devised improvements. Naturally clear-headed and ingenious, every circumstance tended to develop his executive powers. He soon was known in the Tyne valley as a good engine-doctor.

An incident, when he was about twenty years of age, did much to shape his career. He heard that a neighboring mine had been flooded on account of the inability of the engine to pump fast enough. No engineer could make the engine efficient. One Sunday he went down and looked at it. After a thorough examination he said he could make it work in a week's time if he could have authority to make changes as he saw fit. Authority was given him. In four days the engine was repaired and set to work. In spite of jeers from old engine-men, who were jealous of a mere boy, the pump worked well and the mine was soon dry. George's reputation was made, and he soon received appointment as engineer at a large mine at Killingworth, an important place near by.

Meanwhile Stephenson added exact instrumental drawing to his three R's. He found, as every artisan finds, that exact drawing is necessary not only to the study of existing mechanical devices, but particularly to the successful design of new parts. The successful inventor generally invents at his drawing-board.

When twenty-one years of age Stephenson married Fanny Henderson, a respectable country girl living at Ballast Hill. He brought the bride home behind him on a pillion, a wedding journey of fifteen miles. Robert Stephenson, who became his father's partner, and one of the first of England's civil engineers, was born in 1803. In 1812, when Stephenson was thirty-one years old, he was made engine-wright of a large colliery at Killingworth, at a salary of $500. The position was one of profit and fine opportunity. All the engines and machinery were in his hands, and all the repair- and construction-shops were available for such new designs as he saw fit to make. He at once set about making his first locomotive.

Locomotives and railroads of certain sorts and fashions were already in existence, but they were rough and clumsy affairs.

The rails were at first angle-irons, then flat bars of wrought iron, then cast-iron bars. In 1800 Benjamin Outram used stones for sleepers, and improved

rails—hence "tramways." Over these tramways cars were drawn by horses, or by ropes from stationary engines. Murduck made a locomotive in 1784, and by 1812 several types of engines were used for hauling coal-cars. Stephenson saw one of Blenkinsop's engines. Gear-wheels connected the crank-shaft with the axles, and the driving-wheels were geared with the track, while of course, the coal-cars ran on different rails.

This Blenkinsop's engine was a fearful machine. All the teeth rattled, and as there were no springs and the road was very uneven, the shocks were heavy and frequent, even though its speed was only four miles an hour.

Stephenson's first engine, "My Lord," in honor of his patron, Lord Ravensworth, was finished in 1814. Some experiments on the friction of smooth wheels on iron rails led him to omit the teeth on the drivers, though everyone laughed at him, declaring that the engine would not run an "up grade," much less draw a load. His faith, however, resisted all arguments; it was based on experiments and careful calculations. Stephenson *knew* that his engine would run up hill and draw a load, and it did so triumphantly.

But the engine lacked steam. The boiler was small, and the fire was applied only on the exterior of the shell, and the draft was very poor, for the chimney was of necessity short. Only very low steam-pressure was possible, and little or no expansion was practicable. Consequently the exhaust was noisy and forcible. Stephenson turned it into the chimney and found that it increased the draft considerably; he at once thought that a steady jet of steam could be so directed as to make a strong draft even when the engine was not in motion. Thus the "blast" was invented, which about doubled the capacity of the machine.

Stephenson's second locomotive, built in 1815, had no noisy gears, but instead, chain-belts to the driving-axles. It had, however, no springs, and the shocks were so great that only a low speed was possible. In 1816 he built locomotives with springs, some of which were in use for hauling coals for forty years.

Meanwhile Robert was growing into a manly, useful lad. Knowing something of the value of education, both of the head and of the hand, his father determined that Robert should have the best of both. He was sent to Edinburgh for scientific culture, and when at home his father taught him drawing, mechanical processes, and the theory of machines as far as he was able—and his ability was considerable, for George Stephenson was more of a student than many whose early advantages were far better than his. The broad dual training given Robert appears to have been fully successful. Even before he became a man he was of great value to his father. Together they worked out plans for modifying and improving the locomotive and the road it was to run upon. He could soon draw and calculate better than his father, but he never excelled him in the solution of practical problems which depended upon a knowledge of materials and the simple laws of physics and mechanics.

Thus far all railroads had been short, leading from mines to piers for shipping by water. The success of Stephenson's locomotive, the best working loco-

motive ever built at that time, led the proprietors of the Hetton Colliery, a few miles south of the Tyne valley, to propose a road, some eight miles long, over high hills and on steep grades. Stephenson planned and superintended the construction of the road as their engineer. There were several steep inclines where loaded cars going down drew empty cars up. There were two heavy stationary engines drawing cars by a rope, and five of Stephenson's locomotives for the easy grades. Each locomotive drew seventeen wagons, weighing about sixty-four tons, at the rate of four miles per hour. This was the best done as yet, and was considered a great success. It thoroughly established the reputation of George Stephenson as an engineer. This road was opened in 1822.

Before the Hetton Railway was opened Stephenson was busy on a larger work. Parliament had given a franchise for a railway in Durham County, some twenty miles long, through Darlington to Stockton. The function of the road was to carry coal to a shipping pier, and it was not at all settled that horses would not be used to draw the cars. While not much was known about railways, and very little about locomotives, there was a growing conviction that there was great economy in the use of tramways and the steam-engine, and the prospect brightened for building the road.

The charming biographer, Smiles, tells how George Stephenson called on Mr. Edward Pease, the president of the proposed railway, and offered his services in building and equipping the road. Mr. Pease was at once pleased with the man. "There was," said he later, "such an honest, sensible look about him, and he seemed so modest and unpretending. He spoke in the strong Northumbrian dialect, and described himself as 'only the engine-wright at Killingworth.'"

Stephenson urged at once that the road be built for locomotives. Mr. Pease had never seen a locomotive at work, and had taken it for granted that horses would be used; but he went up to Killingworth and rode on the "Blucher" with Stephenson, while it hauled a train of loaded cars. Seeing was believing, and Mr. Pease was in favor of both Stephenson and his locomotive.

So Stephenson was made chief engineer. He and his son Robert surveyed the line, changed the location, avoiding certain territory where people were hostile to a road of any sort, and built new and improved locomotives for the line. What we now call good tools were not to be had, and skilled workmen were not easy to find, but Stephenson made a great advance in the quality of the workmanship.

The amended Act of Parliament gave the Stockton and Darlington line the right to carry passengers in cars drawn by locomotives. This was the first instance of such a grant. Stephenson met Mr. Pease in 1821; the road was opened to the public in 1825. People came in crowds to see the locomotives and to ride on the *first public railway*. There had been bitter opposition to the road and a vast amount of incredulity as to the ability of the locomotives to do practical work.

Imagine the excitement of the first ride. The train consisted of 6 cars loaded with coal and other freight; then a short passenger coach filled with di-

rectors and friends; then 21 open cars or wagons fitted for excursionists; lastly came 6 more cars loaded with coal—making 38 cars in all!

Mr. Stephenson was proud to be on the locomotive and to run it himself. It seemed to spectators incredible that the locomotive could start such a load, but it did start it, and it drew it 8¾ miles in 65 minutes, the speed at times reaching 12 miles per hour! More cars were added at Darlington, and then the train drew on to Stockton, all cars being crowded with passengers.

The success was complete, and all doubts seemed to vanish. From that day the traffic over the road continued without interruption. To the surprise of all, the passenger business became a very important item, and better cars were quickly in demand.

The road is in use to-day, and I had the pleasure last year of riding over a part of it. Of course it now looks in all respects like a modern English road, but I was deeply moved by the thought that it was there that George Stephenson built his first public railway and achieved his first public triumph.

Stephenson was not unmindful of the importance of that step. He said, on that occasion, to some young men, "Now, lads, I will tell you that I think you will live to see the day (though I may not live so long), when railways will come to supersede almost all other methods of conveyance—when mail coaches will go by railway. The time is coming when it will be cheaper for a working-man to ride than to go on foot." He lived to see all that himself, and far more.

It is difficult for us to appreciate the popular surprise and delight at that first railway excursion. We are so accustomed to splendid engines, luxurious cars, and high speed, that we think nothing of them; but when all were new—when coaches and carts on highways were the sole reliance for passengers and freight—it was astonishing indeed to see a "travelling engine," in charge of two men, draw a train of forty cars and six hundred people!

Many men would have been satisfied with the result, but Stephenson was not. He said there was no limit to the speed but the strength of the machinery and the supply of steam. He saw there was no limit to the load but the strength and weight of the locomotive, and no limit to the weight but the strength of the rails and the character of the road-bed; thus he early saw how progress was to be made.

But Stephenson's greatest triumph was yet to come. The Darlington road was chiefly for coals, between small towns in a rough northern county. The vast majority of English people heard nothing, and knew nothing about it. Consequently when it was proposed to connect the great commercial city of Liverpool with the great manufacturing city of Manchester, forty miles away, by a railway, it was taken for granted that the cars were to be drawn by horses. Nevertheless a tram-road was opposed, first, by the Duke of Bridgewater, who had a canal between the two cities; and, secondly, by those who owned the coaches and the inns. Though proposed in 1821, the opposition was so great that it was laid over for several years. In 1824 a committee of interested parties went to Darlington and Killingworth to see Stephenson's road and locomotives. The Dar-

lington line was not yet in operation, but the old locomotives were at work at Killingworth. The committee decided that they must have a double track for cars, whatever might be the motive power.

Accordingly Stephenson was invited to make surveys and estimates, as he was said to be a man of great energy and the only man in England with the necessary experience.

The surveys were made in 1825 with the greatest difficulty, on account of the opposition of landowners. The surveyors were ordered off the grounds, threatened with arrest and violence. Stephenson testified before a Parliamentary Committee that the duke's manager threatened to have him thrown into the mill-pond if he trespassed. Stephenson kept on as good terms as he could with the hostiles, and surveyed their grounds by stealth.

The chief points of difficulty were a tunnel at Liverpool, and a vast and treacherous morass known as "Chat Moss."

Early in 1825, before the Darlington road was opened, Parliament was considering the railway bill and Stephenson was called before the committee as a most important witness. All the opposition was out in force and every means was used to ridicule the undertaking and defeat the bill.

The spectacle presented by plain, blunt, unlettered George Stephenson before the lawyers and members of the House of Commons was strange and interesting, and no wonder it has become historical.

In the cross-examination, every effort was made to confuse and discredit the witness, but he bore himself remarkably well. He had built or superintended half a dozen short railways, and had constructed sixteen locomotives, and he could speak on the details of his plans with certainty and confidence. Two things embarrassed him; the consciousness of awkwardness of manner and speech among men some of whom were inclined to sneer at his northern dialect and lack of polish; secondly, the necessity of restraining himself in stating what his locomotives could do. He fully believed they could draw long trains at the speed of twenty miles, but he was told by the friends of the bill that if he made that claim before the committee, he would be called a madman, and the bill would be killed; accordingly he promised to hold himself down to ten miles per hour.

The evidence brought in against the bill was remarkable, and to-day it sounds strange enough. It was urged that the rails would bend under the locomotive at high speed; that the engine would run off the track on curves; that if the engine got round the curves the cars would go off; that the driving-wheels would "spin," if they went fast, without drawing the train; that the noise and sight of the train would frighten horses and cattle; that hens would not lay and cows would cease to give milk along by the road; that the smoke would poison the air and blast the fields and parks; that the coach lines would be ruined, horses would no longer be of value, and coach-makers, harness-makers, innkeepers and others along the great roads would have nothing to do, etc., etc. In the face of ignorance, ridicule, contempt, and self-interest, Stephenson firmly maintained the safety of a good road, the stability of his engines and cars, the

harmlessness of smoke and noise, and the facility with which animals became indifferent to trains. He said that at Killingworth cattle would not stop feeding as the trains went by. As to the effect of speed, he boldly asserted that at twelve miles per hour the load on a rail would be no more than at six, and in support of his position he appealed to skaters who go swiftly over thin ice. As to the "spinning" of the wheels, he was positive that no such thing ever had happened or could happen. The enemies of the bill caught at his suggestion of twelve miles per hour, and so pressed and led him on that he declared his honest conviction that his trains could run on such a road as he could make twelve miles per hour. This rashness alarmed his friends, and they tried in vain to smooth it over by declaring such speed to be purely "hypothetical."

In spite of all that could be said in its favor, in spite of the pressing need of better transportation for coal, cotton, merchandise, and passengers, the bill failed. Such was the blindness, and ignorance, and prejudice of the House of Commons! Think of calling George Stephenson "an ignoramus, a fool, a maniac," in Parliament, yet such was done.

The friends of the bill were not discouraged; they determined to apply again the next year; but poor Stephenson was discredited, Mr. George Rennie, the great bridge engineer, was employed to make a new survey, and Mr. Stephenson was not called before the committee. Meanwhile, the Darlington line was opened, and reports of its success had reached London. It seemed to be admitted that the *road* was a good thing, but there was great scepticism in regard to the locomotive. However, the bill passed in the spring of 1826, and the directors were not long in deciding that the only competent man to build the road was George Stephenson, and he was elected principal engineer at a salary of $5,000.

The building of the road seemed to be, and was at the time, a tremendous undertaking. Bridges, viaducts, tunnels, and above all, Chat Moss, a yielding bog four miles across and of unknown depth, all taxed the engineer and the company to the utmost. The road was finished in 1830. With the exception of bridges and rails it was very much as it exists to-day.

For a long time the directors were undecided as to the method of propelling the cars. Nearly every engineer except Stephenson was opposed to the locomotive, or travelling engine.

It seems incredible that Telford and the two Rennies, road-makers and bridge-builders, lacked faith in the locomotive, and preferred stationary engines and long cables. Their main objection to the locomotive appears to have been based on the fact that the steam capacity was small, and that it was impracticable to build a locomotive large enough to furnish all the steam that was needed. Stephenson insisted that already his locomotives were better than stationary engines, and yet they could be greatly improved. He said, "Offer a generous prize for the best locomotive, and inventors and builders will greatly improve their machines, and we will have a far better locomotive than now." He said he felt sure he could make a much better one himself. By that time Ste-

phenson was part owner in new locomotive works at Newcastle, and Robert was in general charge there.

The puzzled directors decided to adopt Stephenson's suggestion, and offered $2,500 as a prize for the best locomotive. The specifications required:

1. The engine (without tender) must not weigh more than six tons.
2. The ordinary steam pressure must not exceed 50 pounds above that of the atmosphere.
3. It must be well supplied with safety-valves and pressure-gauges.
4. It must not exceed fifteen feet in height.
5. It must rest on springs.
6. It must be able (if weighing six tons) to draw twenty tons continuously ten miles per hour.
7. It must not cost more than $2,750.
8. The boiler must stand a pressure, when tested, of 150 pounds per square inch.
9. It must be ready for trial October 1, 1829.

The publication of these conditions and the offer of the prize excited great interest, and caused no small amount of comment.* The Stephensons at once began the construction of "The Rocket," without doubt the most famous locomotive ever built. The improved feature it was to have was increased heating surface, so that without increased weight it could generate more steam. This was effected by putting fire-tubes through the water in the boiler. Boiler-tubes had already been used by different people, and some of Stephenson's locomotives which he had sent to France had been fitted with tubes. At the suggestion of Mr. James Booth, Stephenson decided to use a large number of tubes. Modern boilers have smaller tubes and more of them, but "The Rocket" was the first to typify the modern multitubular boiler. In other respects "The Rocket" was like Stephenson's other locomotives built ten or twelve years earlier.

A brief description of "The Rocket" will not be out of place: The boiler was 6 feet long, 3 feet 4 inches in diameter, and was furnished with 25 copper tubes 3 inches in diameter. The fire-box was at the rear end of the boiler, 2 feet wide and 3 feet high, surrounded by water. The cylinders were high on the sides, pointing down to the forward wheels, which were the only drivers. Stephenson had used coupling rods between two sets of "drivers," but "The Rocket" was made for speed chiefly. Its weight when furnished with water was only *four and a half tons!* On trial at Killingworth "The Rocket" worked finely and its capacity for steam was marvellous. It was sent by wagon to Carlisle and by boat to Liverpool.

On the day set for the trial there were four engines on hand: 1. The "Novelty," built by young Ericsson, who afterward in New York built the famous

*It is said that a prominent man of Liverpool declared that "only a parcel of charlatans would ever have issued such a set of conditions; that it had been *proved* to be impossible to make a locomotive go ten miles per hour." He added that, "if it ever was done, he would eat a stewed engine-wheel for breakfast."

"Monitor." 2. The "Sanspareil," by Timothy Hackworth. 3. The "Perseverance," by a Mr. Burstall. 4. "The Rocket," by Stephenson and Booth.

The programme of test fixed by the judges was to run over a level piece of the road at Rainhill, two miles long, forty times during a day, at a rate not less than ten miles per hour. The train was to weigh three and one-third times as much as the locomotive. Each engine was to have a day for trial.

The "Perseverance" proved slow; its best speed was not more than six miles per hour; so it was quickly withdrawn.

The "Sanspareil" was made by one of Stephenson's own foremen, and differed little from the Killingworth style of locomotive. It was rather over weight, but it ran at times as fast as fourteen miles per hour. Its machinery was defective, however, and it was ruled out by the judges.

The "Novelty" ran at times in good style, but its bellows, for making a fire-blast, were defective and repeatedly gave out, causing delay. It failed to make the required speed with a full load; by itself it is said to have run at the rate of twenty-eight miles per hour. Ericsson claimed that he had not had time to properly construct his locomotive, and the claim was probably just. As it was, the time was extended six days.

The day assigned for "The Rocket" was the third day, but when on the second day all other engines failed, it was brought out to entertain the spectators. Attaching it to a coach full of passengers, Stephenson ran over the line at a rate reaching *thirty miles per hour*, to the amazement of all.

The next morning "The Rocket" was subjected to the regular test. Its assigned load was thirteen and a half tons, which it drew back and forth over the two-mile track the full stent of forty times, making a spurt at times as high as twenty-nine miles, about three times what had been declared possible by the judges! Finally, to show how fast the engine could go and still keep the track, Mr. Stephenson ran it alone at the astonishing rate of thirty-five miles per hour.

Thus did "The Rocket" surpass all records and all expectations. The enthusiasm of every one was unbounded. All doubts were removed and Stephenson's opponents in the company became his ardent friends. His judgment seemed infallible, and his word was law.

This victory at Rainhill completed the triumph of the Liverpool and Manchester Railway. The road was opened the following year, 1830, with most imposing ceremonies. Members of Parliament, lords and ladies, and even the great Duke of Wellington, honored the occasion by their presence, and rode on the excursion trains.

The story of George Stephenson's great work is told. His railroad and his locomotive had come together, and to stay. All opposition was crushed, and no sooner was one road in successful operation than another, sometimes several, were on foot. George and Robert Stephenson were in demand everywhere, and their locomotive works were full of orders. In twenty years England had nearly ten thousand miles of railways.

The spectacle of these two men, father and son, working together as equals

was one often admired. Both became wealthy and full of honor. Titled men were proud to pay their respects to George Stephenson, and when he died, in 1848, at the age of sixty-seven, the whole nation rose up to do him honor.

Though probably Stephenson had never heard of Emerson, Emerson had heard of Stephenson, and he called upon him on his visit to England. Afterward Emerson said that "it was worth crossing the Atlantic to have seen Stephenson alone; he had such native force of character and vigor of intellect."

What a contrast that meeting offers! There face to face stood two men, two great philosophers, both of whom have broadly and deeply influenced mankind—one by deeds, the other by words. One wielded the pen, giving us noble, beautiful and inspiring thoughts, profoundly analyzing life and character; the other wielded those cunning tools with which man subdues nature and harnesses its forces to do his will. He wrote not for the pages of a book, but on lines of steel with a stylus that conquered time and space, bringing distant cities into companionship. I look up to each with an equal reverence. Each achieved the conquest of mind over matter, and each exhibited the exceeding manliness of a noble life and character.

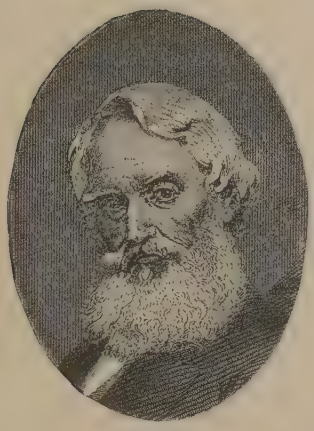
There is no space with which to speak of Stephenson's safety-lamp, nor of the influence his life and character have had on the brain and brawn of working England. If my reader is interested to know him more and better, let him consult the nearest library.

One word about "The Rocket" and this brief sketch is done. For some years "The Rocket" did service on the Liverpool and Manchester road, but it soon proved too light for the heavy traffic, and was sold to a coal company in the North, where for years it faithfully hauled coal-cars from the mines. But even there it was superseded, and in contempt consigned to the back-yard. It was still fleet, but not strong. In that dreary back-yard among useless lumber, the once peerless "Rocket" spent a season or two in rain and snow and sunny weather, when George Stephenson bought it back and put it in his cabinet at the Newcastle works. After Stephenson's death the precious relic was placed in the British Museum in London.

"The Rocket" itself was exhibited a few years ago at the Railway Exposition in Chicago, and an exact copy of it was shown at the recent World's Fair.

SAMUEL F. B. MORSE

(1791–1872)



Samuel Finley Breese Morse, artist and inventor, was born at the foot of Breed's Hill, Charlestown, Mass., on April 27, 1791. His father was the Rev. Jedediah Morse, D.D., the author of Morse's "Geography." At the age of fourteen Samuel Morse entered Yale College; under the instruction of Professors Day and Silliman he received the first impulse toward those electrical studies with which his name is mainly identified.

In 1811 Morse, whose tastes during his early years led him more strongly toward art than toward science, became the pupil of Washington Allston, then the greatest of American artists, and accompanied his master to England, where he remained four years. His success at this period was considerable; but on his return to America, in 1815, he failed to obtain commissions for historical paintings, and after working on portraits for two years at Charleston, S. C., he removed first to Washington and afterward to Albany, finally settling in New York. In 1825 he laid the foundations of the National Academy of Design, and was elected its first president, an office which he filled until 1845. The year 1827 marks the revival of Morse's interest in electricity. It was at this time that he learned from Professor J. F. Dana, of Columbia College, the elementary facts of electro-magnetism. As yet, however, he was devoted to his art, and in 1829 he again went to Europe to study the old masters.

The year of his return, 1832, may be said to close the period of his artistic, and to open that of his scientific, life. On board the packet-ship Sully, which sailed from Havre, October 1, 1832, while discussing one day with his fellow-passengers the properties of the electro-magnet, he was led to remark: "If the presence of electricity can be made visible in any part of the circuit, I see no reason why intelligence may not be transmitted by electricity."

It was not a novel proposition, but the process of formulating it started in his mind a train of new and momentous ideas. The current of electricity, he knew, would pass instantaneously any distance along a wire; and if it were interrupted a spark would appear. It now occurred to him that the spark might represent a part of speech, either a letter or a number; the absence of the spark, another part; and the duration of its absence, or of the spark itself, a third; so that an alphabet might be easily formed, and words indicated. In a few days he had completed rough drafts of the necessary apparatus, which he displayed to his fellow-passengers. Five years later, the captain of the ship identified under oath

Morse's completed instrument with that which Morse had explained on board the Sully, in 1832.

During the twelve years that followed Morse was engaged in a painful struggle to perfect his invention and secure for it a proper presentation to the public. The refusal of the Government to commission him to paint one of the great historical pictures in the rotunda of the Capitol, seemed to destroy all his old artistic ambition. In poverty he pursued his new enterprise, making his own models, moulds, and castings, denying himself the common necessaries of life, and encountering embarrassments and delays of the most disheartening kind. It was not until 1836 that he completed any apparatus that would work, his original idea having been supplemented by his discovery, in 1835, of the "relay," by means of which the electric current might be reinforced or renewed where it became weak through distance from its source. Finally, on September 2, 1837, the instrument was exhibited to a few friends at his room in the University building, New York, where a circuit of 1,700 feet of copper wire had been set up, with such satisfactory results as to awaken the practical interest of the Messrs. Vail, iron and brass workers in New Jersey, who thenceforth became associated with Morse in his undertaking.

Morse's petition for a patent was dated September 28, 1837, and was soon followed by a petition to Congress for an appropriation to defray the expense of subjecting the telegraph to actual experiment over a length sufficient to establish its feasibility and demonstrate its value. The Committee on Commerce, to whom the petition was referred, reported favorably. Congress, however, adjourned without making the appropriation, and meanwhile Morse sailed for Europe to take out patents there. The trip was not a success. In England his application was refused, on the alleged ground that his invention had been already published; and while he obtained a patent in France, it was subsequently appropriated by the French Government without compensation to himself. His negotiations also with Russia proved futile, and after a year's absence he returned to New York.

On February 23, 1843, Congress passed the long-delayed appropriation of $30,000; and steps were at once taken to construct a telegraph from Baltimore to Washington. On May 24, 1844, it was used for the first time, Mr. Morse himself sending over the wires the first and ever-to-be-remembered message, "What hath God wrought."

Morse's patents were already secured to him and his associates, and companies were soon formed for the erection of telegraph lines all over the United States. In the year 1847 he was compelled to defend his invention in the courts, and successfully vindicated his claims to be called the original inventor of the electro-magnetic recording telegraph. Thenceforward Morse's life was spent in witnessing the growth of his enterprise, and in gathering the honors which an appreciative public bestowed upon him. As years went by he received from the various foreign governments their highest distinctions, while in 1858 the representatives of Austria, Belgium, France, the Netherlands, Piedmont, Russia, the

FROM PHOTOGRAPH.

SAMUEL F. B. MORSE, INVENTOR OF THE TELEGRAPH.

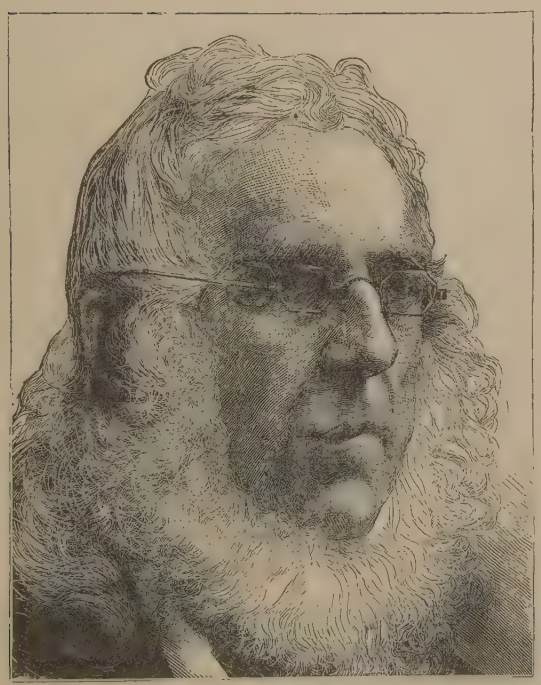
Holy See, Sweden, Tuscany, and Turkey appropriated the sum of 400,000 francs in recognition of the use of his instruments in those countries.

The telegraph is not the only great success with which the name of Samuel Morse is honorably connected. Having made the acquaintance of Daguerre in Paris, he studied with him the infancy of photography, and was the first to take sun pictures, or daguerreotypes, in America. Also it was he who made the first submarine electric cable. This was laid in New York Harbor; and from it he was the first to conceive that stupendous idea of the transoceanic telegraph. In the preparations for laying the first Atlantic cable he took an active part, though the attempt of 1857, in which he personally engaged, was not successful. He died April 2, 1872, at New York, where his statue in bronze now stands in the Central Park.

PETER COOPER *

By Clarence Cook

(1791–1883)



It may be said, without exaggeration, that few men in our time and country, not occupying official position, have been so widely and sincerely mourned as the late Peter Cooper. Other men have been as genuinely good as he, and have founded charitable institutions as worthy and as useful, in their way, as the one which is to be the lasting monument to his memory. But Peter Cooper held a place in the hearts of his fellow-citizens which belonged to him alone. A man, to outward seeming, in manners and conversation as plain and homespun as his name, he held unshaken from youth to old age—and to few men is it allotted to live in uninterrupted health and action to the age of ninety-two—the confidence, the respect and the affection of all sorts of people: the rich and the poor, the high and the low, the learned and the unlearned, people of all parties and of all religions. Character is the accumulation of little actions, and makes its deepest impression, of course, when these actions have been observed by great numbers of people during a long period of time. The whole of his ninety-two years, with the ex-

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ception of a short time passed in his youth in its vicinity, were spent by Mr. Cooper in the city of New York. It was little more than a country town when he was born; it was already one of the great cities of the world when he died; and in all that time he had been associated with the business enterprises that had helped its growth, as one of the chief actors.

The fortune that he built up was both earned and expended here; the manner of its earning was known of all men, but the way in which it was expended was rather felt than known, for, like all great and generous benefactors, Mr. Cooper was without ostentation; but as he gave while he was alive and all the time that he was alive; and as he gave to the people among whom he lived, and not to outsiders, it naturally followed that his name, his person, his traits of character, became, as it were, a common possession to the people of New York; but few men upon whom such a glare of publicity had fallen for so many years would have been able to bear the scrutiny so well as Peter Cooper.

He was born on February 12, 1791, presumably in Little Dock Street, now Water Street, Coenties Slip, where his father, John Cooper, carried on the trade of a hatter. His shop was near the store of John Jacob Astor, from whom he bought the beaver-skins which he made up into hats. John Cooper had served in the war of the Revolution, and when it ended, he retired with the rank of lieutenant. He married Margaret, the daughter of John Campbell, who also had served in the Continental army, as quartermaster, and who now carried on the trade of potter and tile-maker on the spot where St. Paul's Chapel now stands.

To John and Margaret Cooper nine children were born, two daughters and seven sons, of whom Peter was the fifth, and was named after the apostle in the belief, as his father expressed it, that he would come to something. Following the fashion of the time, he was set to work at his father's trade as soon as he was old enough to work, as all his brothers had been before him; and in later years he described himself as a little boy, with his head just reaching the top of the table where he was set to pulling out the hairs from rabbit skins to use in making fur hats; and he was kept at the business until he was fifteen, when, as he used to tell, he had learned to make every part of a hat. So independent is business success of what is commonly called education, that it may be of interest to record that Peter Cooper never went to school for more than one year, and only in the half of each day of school: his parents were poor, and could not spare what his labor earned, and besides his health was delicate, and the confinement of school was thought more injurious to him than the work in the shop. In consequence of this restriction Peter Cooper grew to manhood with very little learning beyond reading, writing, and the rudiments of arithmetic, and while this was a source of regret to him all his life, it was in reality the spur that drove him to found an institution that should take away all excuses for ignorance from the coming generations of poor boys in his native city.

The elder Cooper would seem to have been a man of small practical capacity or staying power, for he moved about from place to place, changing his business in the hope of bettering his condition; now going to Peekskill to set up a

brewery; thence to Catskill, where he added brick-making to making beer; then to Brooklyn to try hatting again; and finally to Newburgh, where he returned to brewing. In all these shiftings of home and business Peter remained with his father and gave him what help he could; he used in later life to recall his carrying about the beer-kegs to his father's customers; but at the age of seventeen, with his parents' consent, he came back to New York, and looked about for work on his own account. He had saved up from his small earnings, while with his father, the sum of ten dollars, and with this, he tells us, he bought a lottery ticket, which drew a blank. This seeming misfortune he turned to good account, for he then determined never to trust to luck again, but to be content to earn his bread in the appointed way: it was his first and last speculation. On reaching New York he had the usual difficulty in finding employment, but at length was accepted as an apprentice by a firm of carriage-makers, to whom, with his father's consent, he bound himself until he should come of age; his masters agreeing to pay him $25 a year and his board. His grandmother had a house on Broadway, in which she gave him the use of an upper room, and here in his spare hours he employed himself in wood-carving, in which he acquired some proficiency. In his business he worked so industriously, and made himself so valuable to his employers, that when his time expired they offered to lend him the money to go into business for himself; but he did not accept this generous offer, as he was determined never to be in debt. While with Messrs. Burtis and Woodward he had invented a machine for mortising wheel-hubs, thus giving the first evidence of an inventive faculty which, though never accomplishing great things, was often of considerable service both to himself and the community. On leaving the business of carriage-making Peter Cooper went to Hempstead, L. I., where he found work in a woollen factory. Here he invented and patented an improvement on the machine in use for shearing the nap of cloth; and as during the war of 1812 all commerce with England ceased, cloth-making in America flourished, and from the sale of his machines, which he could hardly make fast enough to supply the demand, young Cooper reaped a considerable profit. One of his first customers was the late Matthew Vassar, of Poughkeepsie, to whom he not only sold some of his machines, but also the right to dispose of them in Dutchess County. When he found that his earnings had enabled him to lay by the sum of $500, he thought himself justified in asking a young woman, Miss Sarah Bedel, whom he had met when in Hempstead, to become his wife; but before doing so, he determined to visit his parents in Newburgh, and inform them of his intention. He found them in great trouble; his father in debt and needing help; and without hesitation he placed his small savings at his disposal, paid the most pressing of the debts, and made arrangements for paying off the rest. His father was thus saved from bankruptcy by his son's devotion; but the action was characteristic of Peter Cooper, both in its unselfishness, and as indicative of his business integrity. He would never be in debt himself, and he was equally resolved to keep those belonging to him as free as himself. He took pride in the fact that neither he nor his father had ever

failed in business; and this is the more remarkable, since in the course of his business life the country passed through no less than ten serious commercial panics.

Peter Cooper and Miss Bedel were married on December 22, 1813, when he was twenty-two and the lady twenty-one. Their married life, as it was exceptionally long, so it was exceptionally happy. It lasted fifty-six years; Mrs. Cooper died in 1869, and Mr. Cooper survived her fourteen years, dying in 1883. Their golden wedding was celebrated in 1863. They had six children, but only two lived to grow up; the Hon. Edward Cooper, once mayor of the city, and Sarah Amelia Cooper, the wife of the Hon. Abram S. Hewitt. Mr. James Parton says: "There never was a happier marriage than this. To old age Mr Cooper never sat near his wife without holding her hand in his. He never spoke to her, nor of her, without some tender epithet. He attributed the great happiness of his life and most of his success to her admirable qualities. She seconded every good impulse of his benevolence, and made the fulfilment of his great scheme possible by her wise and resolute economy."

Mr. Cooper seems to have inherited something of his father's business restlessness, for in addition to the many pursuits in which we have seen him engage, he now bought a grocery stand, and in about a year gave that up and purchased a glue factory, selling his grocery business and buying a lease of the glue factory for twenty-one years, for $2,000, his whole savings. He differed from his father in this, that everything prospered with which he had to do. The grocery had done well, but the glue factory did better. "At that time nearly all the glue used in this country was imported from Ireland, and sold at a high price. Mr. Cooper studied the subject and experimented, until he was able to make better glue than the Irish and sell it at a lower price, and he soon had nearly the entire glue business of the country in his hands." But chance had nothing to do with Mr. Cooper's success: the secret of that success was unremitting industry and generous economy. He worked that he might earn, and he saved that he might use and give. For twenty years while he held the glue factory, he was his own bookkeeper, clerk, and salesman; going to the factory at daybreak to light the fires, and spending the evenings at home, posting his books, writing, and reading to his family.

In 1828, moved by the interest in business circles in the completion of the Baltimore and Ohio Railroad, Mr. Cooper, with two partners, bought a tract of three thousand acres within the city limits of Baltimore. By the failure of his associates to meet the payment of their shares, Mr. Cooper was obliged to shoulder the whole cost, amounting to $105,000. The road, too, owing to unexpected difficulties in construction, was dreading bankruptcy, from which it was saved by Mr. Cooper's ingenuity in devising a locomotive that enabled the company to overcome certain difficulties that had been thought insurmountable. Failing in the end to sell his land as he had hoped, Mr. Cooper decided to utilize the timber growing on it in the manufacture of charcoal iron. When he had, after many difficulties, established his works, he sold out to some Boston capitalists, who

formed the Canton Iron Company. Mr. Cooper took a large part of the purchase in stock at $45 a share, which he finally sold out at $230 a share.

This was the beginning of his interest in the iron business, where the greater part of his fortune was made. The remainder came from his glue works and the industries connected with them. In 1873, the year of the great panic, in a letter to President Grant suggesting remedial legislation, Mr. Cooper said that not less than a thousand persons depended for their bread on the business carried on in the circle of his family. He had at that time two rolling-mills running, and two mills for the manufacture of wire and springs; and his glue, oil, and isinglass works gave employment to two hundred persons.

The story of Mr. Cooper's connection with the laying of the Atlantic cable has been so often told, that we do not repeat it here. It adds further testimony to his indomitable energy, his largeness of view, his financial ability, and the confidence that was felt in him by his fellow-men. The story of the difficulties, failures and final success of this grandest achievement of modern science and enterprise, is as romantic as any episode in social history.

But, in Peter Cooper's view, the most important event in his life—the one to which all his energies, his thoughts, his economies had been steadily directed since his youth—was the founding of the institution that bears his name, and that has made him a powerful factor in the development of New York. It was the outcome, in the first place, of its founder's regret for the deficiencies of his own early training, which were owing partly to his parents' poverty and partly to the lack of public or free schools in his native city when he was a boy. But this regret, which could only have been felt by a man of superior intelligence, was made to flower in this great result by Mr. Cooper's genuine, deep, and unfailing love for his fellow-men, and his belief in the duty of every man to help the race forward in its progress to a better social condition. He has himself stated the principles on which his life was founded. His aim was "to render some equivalent to society, in some useful form of labor, for each day of his existence;" and "while he had always recognized that the object of business is to make money in an honorable manner, he had endeavored to remember that the object of life is to do good."

In 1876 Mr. Cooper was nominated for the presidency by the National Independent or "Greenback" party. It was with no selfish ambition that he allowed his name to go before the voters of the country, and his only regret at the result was that a policy was defeated which he believed to be for the public good.

Mr. Cooper died April 4, 1883, at the age of ninety-two, after a short illness, the result of a cold. At his funeral, the late Dr. Crosby said: "What an example has been set by this life to our young men! How it shows them what the true aim of life should be! What an example to our wealthy men to show that money obtained by honest industry, and spent in benefiting mankind, will never produce war between labor and capital, but will assuage all angry elements, and give universal peace! Oh! if all our wealthy men were like Peter Cooper, all

classes would be satisfied, all commotions cease, and the community would be as near perfection—as near perfection in the pecuniary view—as it possibly could be on earth."

Clarence Cook

LOUIS KOSSUTH

(1802–1894)

Louis Kossuth was born at Monok, in Zemplin, one of the northern counties of Hungary, April 21, 1802. His family was ancient, but impoverished; his father served in the Austrian army during the wars against Napoleon; his mother is represented to have been a woman of extraordinary force of mind and character. Kossuth thus adds another to the long list of great men who seem to have inherited their genius from their mothers. As a boy he was remarkable for the winning gentleness of his disposition, and for an earnest enthusiasm, which gave promise of future eminence, could he but break the bonds imposed by low birth and iron fortune. A young clergyman was attracted by the character of the boy, and voluntarily took upon himself the office of his tutor, and thus first opened before his mind visions of a broader world than that of the miserable village of his residence. But these serene days of power expanding under genial guidance soon passed away. His father died, his tutor was translated to another post, and the walls of his prison-house seemed again to close upon the boy. But by the aid of members of his family, themselves in humble circumstances, he was enabled to attend such schools as the district furnished. Little worth knowing was taught there; but among that little was the Latin language; and through that door the young dreamer was introduced into the broad domains of history, where, abandoning the mean present, he could range at will through the immortal past.

In times of peace the law offers to an aspiring youth the readiest means of ascent from a low degree to lofty stations. Kossuth, therefore, when just entering upon manhood, made his way to Pesth, the capital, to study the legal profession. Here he entered the office of a notary, and began gradually to make himself known by his liberal opinions and the fervid eloquence with which he set forth and maintained them; and men began to see in him the promise of a powerful public writer, orator, and debater.

The man and the hour were alike preparing. In 1825, the year before Kossuth arrived at Pesth, the critical state of her Italian possessions compelled Austria to provide extraordinary revenues. The Hungarian Diet was then assembled, after an interval of thirteen years. This Diet at once demanded certain measures of reform before they would make the desired pecuniary grants. The court was obliged to concede these demands. Kossuth, having completed his legal studies, and finding no favorable opening in the capital, returned, in 1830, to his native district, and commenced the practice of the law, with marked success. He also began to make his way toward public life by his assiduous attendance and intelligent action in the local assemblies. A new Diet was assembled in 1832, and he received a commission as the representative in the Diet of a magnate who was absent. As proxy for an absentee he was only charged, by the Hungarian Constitution, with a very subordinate part, his functions being more those of a counsel than of a delegate. This, however, was a post much sought for by young and aspiring lawyers, as giving them an opportunity of mastering legal forms, displaying their abilities, and forming advantageous connections.

This Diet renewed the Liberal struggle with increased vigor. By far the best talent of Hungary was ranged upon the Liberal side. Kossuth early made himself known as a debater, and gradually won his way upward, and became associated with the leading men of the Liberal party, many of whom were among the proudest and richest of the Hungarian magnates. He soon undertook to publish a report of the debates and proceedings of the Diet. This attempt was opposed by the Palatine, and a law hunted up which forbade the "printing and publishing" of these reports. He, for a while, evaded the law by having his sheet lithographed. It increased in its development of democratic tendencies, and in popularity, until finally the lithographic press was seized by Government. Kossuth, determined not to be baffled, still issued his journal, every copy being written out by scribes, of whom he employed a large number. To avoid seizure at the post-office, they were circulated through the local authorities, who were almost invariably on the Liberal side. His periodical penetrated into every part of the kingdom, and men saw with wonder a young and almost unknown public writer boldly pitting himself against Metternich and the whole Austrian cabinet. Kossuth might well, at this period, declare that he "felt within himself something nameless."

In the succeeding Diets the Opposition grew still more determined. Kossuth, though twice admonished by Government, still continued his journal; and no longer confined himself to simple reports of the proceedings of the Diet, but added political remarks of the keenest satire and most bitter denunciation. He was aware that his course was a perilous one. He was once found by a friend walking in deep reverie in the fortress of Buda, and in reply to a question as to the subject of his meditations, he said, "I was looking at the casemates, for I fear that I shall soon be quartered there." Government finally determined to use arguments more cogent than discussion could furnish. Baron Wesselenyi,

the leader of the Liberal party, was arrested, together with a number of his adherents, among whom Kossuth was of too much note to be overlooked.

Kossuth became at once sanctified in the popular mind as a martyr. Liberal subscriptions were raised through the country for the benefit of his mother and sisters, whom he had supported by his exertions, and who were now left without protection. Wesselenyi became blind in prison; Lovassi, an intimate friend of Kossuth, lost his reason; and Kossuth himself, as was certified by his physicians, was in imminent risk of falling a victim to a serious disease. The rigor of his confinement was mitigated; he was allowed books, newspapers, and writing materials, and suffered to walk daily upon the bastions of the fortress, in charge of an officer. Among those who were inspired with admiration for his political efforts, and with sympathy for his fate, was Teresa Mezlenyi, the young daughter of a nobleman. She sent him books, and corresponded with him during his imprisonment; and they were married in 1841, soon after his liberation.

In the second year of Kossuth's imprisonment Austria again needed Hungarian assistance. The threatening aspect of affairs in the East, growing out of the relations between Turkey and Egypt, determined all the great powers to increase their armaments. A demand was made upon the Hungarian Diet for an additional levy of 18,000 troops. A large body of delegates was chosen pledged to oppose this grant except upon condition of certain concessions, among which was a general amnesty, with a special reference to the cases of Wesselenyi and Kossuth. The more sagacious of the Conservative party advised Government to liberate all the prisoners, with the exception of Kossuth; and to do this before the meeting of the Diet, in order that their liberation might not be made a condition of granting the levy, which must be the occasion of great excitement. The cabinet temporized and did nothing. The Diet was opened, and the contest was waged during six months. The Opposition had a majority of two in the Chamber of Deputies, but were in a meagre minority in the Chamber of Magnates. But Metternich and the cabinet grew alarmed at the struggle, and were eager to obtain the grant of men, and to close the refractory Diet. In 1840 a royal rescript suddenly made its appearance, granting the amnesty, accompanied also with conciliatory remarks, and the demands of the Government for men and money were at once complied with.

Kossuth issued from prison, in 1840, bearing in his debilitated frame, his pallid face, and glassy eyes, traces of severe sufferings, both of mind and body. He repaired for a time to a watering-place among the mountains to recruit his shattered health. His imprisonment had done more for his influence than he could have effected if at liberty. The visitors at the watering-place treated with silent respect the man who moved about among them in dressing-gown and slippers, and whose slow steps, and languid features, disfigured with yellow spots, proclaimed him an invalid. Abundant subscriptions had been made for his benefit and that of his family, and he now stood on an equality with the proudest magnates. These had so often used the name of the "Martyr of the Liberty of the

Press," in pointing their speeches, that they now had no choice but to accept the popular verdict as their own.

Soon after his liberation, Kossuth came forward as the principal editor of the *Pesth Gazette* (*Pesthi Hirlap*), which a bookseller who enjoyed the protection of the Government had received permission to establish. The name of the editor was now sufficient to electrify the country ; and Kossuth at once stood forth as the advocate of the rights of the lower and middle classes against the inordinate privileges and immunities enjoyed by the magnates. But when he went to the extent of demanding that the house-tax should be paid by all classes in the community, not even excepting the highest nobility, a party was raised up against him among the nobles, who established a paper to combat so disorganizing a doctrine. This party, backed by the influence of the Government, succeeded in defeating the election of Kossuth as member from Pesth for the Diet of 1843. He was, however, very active in the local assembly of the capital.

Kossuth was not altogether without support among the higher nobles. The blind old Wesselenyi traversed the country, advocating rural freedom and the abolition of the urbarial burdens. Among his supporters at this period, also, was Count Louis Batthyanyi, one of the most considerable of the Magyar magnates, subsequently President of the Hungarian Ministry, and the most illustrious martyr of the Hungarian cause. Aided by his powerful support, Kossuth was again brought forward, in 1847, as one of the two candidates from Pesth. The Government party, aware that they were in a decided minority, limited their efforts to an attempt to defeat the election of Kossuth. This they endeavored to effect by stratagem, but failed utterly.

Kossuth no sooner took his seat in the Diet than the foremost place was at once conceded to him. At the opening of the session he moved an address to the king, concluding with the petition that "liberal institutions, similar to those of the Hungarian Constitution, might be accorded to all the hereditary states, that thus might be created a united Austrian monarchy, based upon broad and constitutional principles." During the early months of the session Kossuth showed himself a most accomplished parliamentary orator and debater ; and carried on a series of attacks upon the policy of the Austrian cabinet, which for skill and power have few parallels in the annals of parliamentary warfare. Those form a very inadequate conception of its scope and power, whose ideas of the eloquence of Kossuth are derived solely from the impassioned and exclamatory harangues which he flung out during the war. These were addressed to men wrought up to the utmost tension, and can be judged fairly only by men in a state of high excitement. He adapted his matter and manner to the occasion and the audience. Some of his speeches are marked by a stringency of logic worthy of Webster or Calhoun ; but it was what all eloquence of a high order must ever be—"logic red-hot."

Now came the French Revolution of February, 1848. The news of it reached Vienna on March 1st, and was received at Presburg on the 2d. On the following day Kossuth delivered his famous speech on the finances and the state of the

monarchy generally, concluding with a proposed "Address to the Throne," urging a series of reformatory measures. Among the foremost of these was the emancipation of the country from feudal burdens—the proprietors of the soil to be indemnified by the state; equalizing taxation; a faithful administration of the revenue to be satisfactorily guaranteed; the further development of the representative system; and the establishment of a government representing the voice of, and responsible to, the nation. The speech produced an effect almost without parallel in the annals of debate. Not a word was uttered in reply, and the motion was unanimously carried. On March 13th took place the revolution in Vienna which overthrew the Metternich cabinet. On the 15th the constitution granted by the emperor to all the nations within the empire was solemnly proclaimed amid the wildest transports of joy. Henceforth there were to be no more Germans or Sclavonians, Magyars or Italians; strangers embraced and kissed each other in the streets, for all the heterogeneous races of the empire were now brothers: as likewise were all the nations of the earth at Anacharsis Klootz's "Feast of Pikes" in Paris on that 14th day of July in the year of grace 1790—and yet, notwithstanding, came the "Reign of Terror."

Among the demands made by the Hungarian Diet was that of a separate and responsible ministry for Hungary. The Palatine, Archduke Stephen, to whom the conduct of affairs in Hungary had been intrusted, persuaded the emperor to accede to this demand, and on the following day Batthyanyi, who, with Kossuth and a deputation of delegates of the Diet was in Vienna, was named President of the Hungarian ministry. It was, however, understood that Kossuth was the life and soul of the new ministry.

Kossuth assumed the Department of Finance, then, as long before and now, the post of difficulty under Austrian administration. The Diet, meanwhile, went on to consummate the series of reforms which Kossuth had so long and steadfastly advocated.

Up to this time there had been, indeed, a vigorous and decided opposition, but no insurrection. The true cause of the Hungarian war was the hostility of the Austrian Government to the whole series of reformatory measures which had been effected through the instrumentality of Kossuth; but its immediate occasion was the jealousy which sprung up among the Servian and Croatian dependencies of Hungary against the Hungarian ministry. This soon broke out into an open revolt, headed by Baron Jellachich, who had just been appointed Ban, or Lord, of Croatia. How far the Serbs and Croats had occasion for jealousy is of little consequence to our present purpose to inquire; though we may say, in passing, that the proceedings of the Magyars toward the other Hungarian races was marked by a far more just and generous feeling and conduct than could have been possibly expected. But however the case may have been, as between the Magyars and Croats, as between the Hungarians and Austria, the hostile course of the latter is without excuse or palliation. The emperor had solemnly sanctioned the action of the Diet, and did as solemnly denounce the proceedings of Jellachich. On May 29th the Ban was summoned to present himself at Inns-

prück to answer for his conduct, and as he did not make his appearance, an imperial manifesto was issued on June 10th depriving him of all his dignities, and commanding the authorities at once to break off all intercourse with him. He, however, still continued his operations, and levied an army for the invasion of Hungary, and a fierce and bloody war of races broke out, marked on both sides by the most fearful atrocities.

The Hungarian Diet was opened on July 5th, when the Palatine, Archduke Stephen, in the name of the king, solemnly denounced the conduct of the insurgent Croats. A few days after, Kossuth, in a speech in the Diet, set forth the perilous state of affairs, and concluded by asking for authority to raise an army of 200,000 men, and a large amount of money. These proposals were adopted by acclamation, the enthusiasm in the Diet rendering any debate impossible and superfluous.

The Imperial forces having been victorious in Italy, and one pressing danger being thus averted from the empire, the Austrian cabinet began openly to display its hostility to the Hungarian movement. Jellachich repaired to Innsprück, and was openly acknowledged by the court, and the decree of deposition was revoked. Early in September Hungary and Austria stood in an attitude of undisguised hostility. On the 5th of that month Kossuth, though enfeebled by illness, was carried to the hall of the Diet, where he delivered a speech, declaring that so formidable were the dangers that surrounded the nation, that the ministers might soon be forced to call upon the Diet to name a dictator, clothed with unlimited powers, to save the country; but before taking this final step they would recommend a last appeal to the Imperial Government. A large deputation was thereupon despatched to the emperor, to lay before him the demands of the Hungarian nation. No satisfactory answer was returned, and the deputation left the imperial presence in silence. On their return they plucked from their caps the plumes of the united colors of Austria and Hungary, and replaced them with red feathers, and hoisted a flag of the same color on the steamer which conveyed them to Pesth. Their report produced the most intense agitation in the Diet and at the capital, but it was finally resolved to make one more attempt for a pacific settlement of the question. In order that no obstacle might be interposed by their presence, Kossuth and his colleagues resigned, and a new ministry was appointed. A deputation was sent to the National Assembly at Vienna, which refused to receive it. Jellachich had in the meantime entered Hungary with a large army, not as yet, however, openly sanctioned by imperial authority. The Diet, seeing the imminent peril of the country, conferred dictatorial powers upon Kossuth. The Palatine resigned his post and left the kingdom. The emperor appointed Count Lemberg to take the entire command of the Hungarian army. The Diet declared the appointment illegal, and the count, arriving at Pesth without escort, was slain in the streets of the capital by the populace, in a sudden outbreak. The emperor forthwith placed the kingdom under martial law, giving the supreme civil and military power to Jellachich. The Diet at once revolted, declared itself permanent, and appointed Kossuth Governor, and President of the Committee of Safety.

There was now but one course left for the Hungarians: to maintain by force of arms the position they had assumed. We cannot detail the events of the war which followed, but merely touch upon the most salient points. Jellachich was speedily driven out of Hungary toward Vienna. In October the Austrian forces were concentrated, under command of Windischgrätz, to the number of 120,000 veterans, and were put on the march for Hungary. To oppose them the only forces under the command of the new government of Hungary were 20,000 regular infantry, 7,000 cavalry, and 14,000 recruits, who received the name of Honveds, or "protectors of home." Of all the movements that followed, Kossuth was the soul and chief. His burning and passionate appeals stirred up the souls of the peasants, and sent them by thousands to the camp. He kindled enthusiasm, he organized that enthusiasm, and transformed those raw recruits into soldiers more than a match for the veteran troops of Austria. Though himself not a soldier, he discovered and drew about him soldiers and generals of a high order. The result was that Windischgrätz was driven back from Hungary, and of the 120,000 troops which he led into that kingdom in October, one-half were killed, disabled, or taken prisoners at the end of April. The state of the war on May 1st may be gathered from the imperial manifesto of that date, which announced that "the insurrection in Hungary had grown to such an extent" that the Imperial Government "had been induced to appeal to the assistance of his majesty the Czar of all the Russias, who generously and readily granted it to a most satisfactory extent." The issue of the contest could no longer be doubtful when the immense weight of Russia was thrown into the scale. In modern warfare there is a limit beyond which devotion and enthusiasm cannot supply the place of numbers and material force And that limit was overpassed when Russia and Austria were pitted against Hungary.

On May 1st the Russian intervention was announced. On August 11th Kossuth resigned his dictatorship into the hands of Görgey, who, two days after, in effect closed the war by surrendering to the Russians.

The Hungarian war thus lasted a little more than eleven months, during which time there was but one ruling and directing spirit, and that was Kossuth, to whose immediate career we now return.

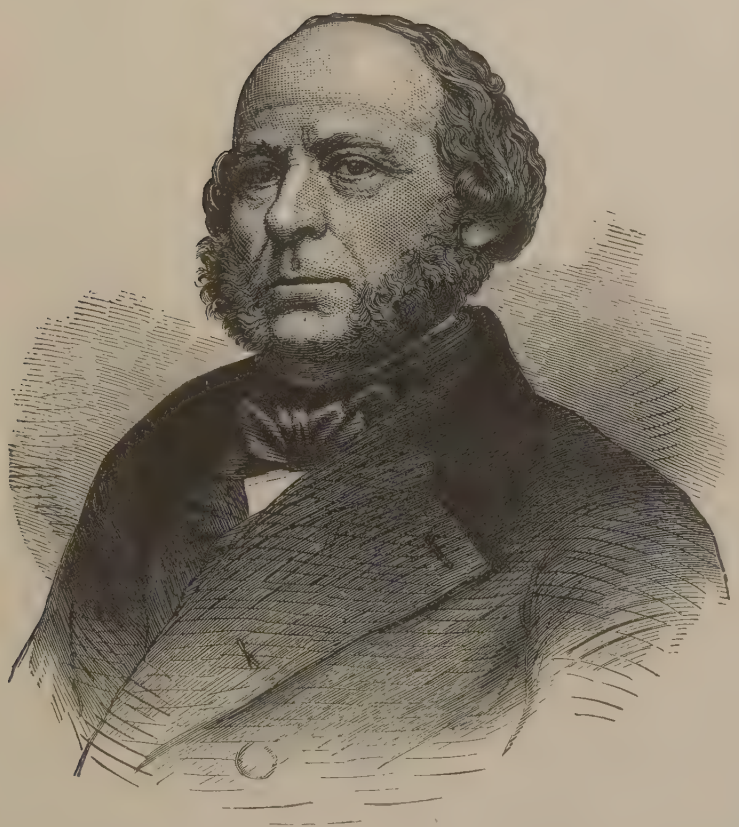
Nothing remained for him and his companions but flight. They gained the Turkish frontier, and threw themselves on the hospitality of the sultan, who promised them a safe asylum. Russia and Austria demanded that the fugitives should be given up; but being supported by France and England, the sultan arranged a compromise by which they were detained in Asia Minor as prisoners. Kossuth was released in 1851, and made a tour of the United States, agitating in favor of Hungary. He never returned to his native land, but lived an exile for over forty years. For a while he struggled desperately to help the Hungarians; then, finding that the universal progress of liberal ideas was doing more for them than he ever could, he resigned himself to a peaceful life devoted to literature and science. He died at Turin, March 20, 1894, reverenced by all the world, and mourned by his countrymen with tumultuous demonstrations as their national hero.

Kossuth occupies a position peculiarly his own, whether we regard the circumstances of his rise, or the feelings which have followed him in his fall. Born in the middle ranks of life, he raised himself by sheer force of intellect to the loftiest place among the proudest nobles on earth, without ever deserting or being deserted by the class from which he sprung. He effected a sweeping reform without appealing to any sordid or sanguinary motive. No soldier himself, he transformed a country into a camp, and a nation into an army. He transmuted his words into batteries, and his thoughts into soldiers. Without ever having looked upon a stricken field, he organized the most complete system of resistance to despotism that the history of revolutions has furnished. It failed, but only failed where nothing could have succeeded.

JOHN ERICSSON*

By Martha J. Lamb

(1803–1889)



In a message, referring to the relations of our country with the several nations of Europe, President Harrison said: "The restoration of the remains of John Ericsson to Sweden afforded a gratifying occasion to honor the memory of the great inventor, to whose genius our country owes so much, and to bear witness to the unbroken friendship which has existed between the land which bore him and our own, which claimed him as a citizen."

This paragraph is a forcible reminder of the impressive ceremonial witnessed in the streets and harbor of New York City, on Saturday, August 23, 1890. It had been intimated to this Government, as is well known, that the Government of Sweden would regard it as a graceful act

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if the remains of Captain John Ericsson should be conveyed to his native country upon a United States man-of-war ; and arrangements having been completed, the Baltimore was assigned to the service. In committing the illustrious dead to the care of the commander of the Baltimore, Mr. George H. Robinson said: "We send him back crowned with honor, proud of the life of fifty years he devoted to this nation, and with gratitude for his gifts to us."

John Ericsson's birthplace in Sweden is marked by a large granite monument erected in 1867. His father was a mining proprietor, and his mother an energetic, intellectual, and high-spirited woman. His brother, Nils, one year older than himself, was trained as an engineer, became chief of the construction of the system of government railways in Sweden, was created a baron, and retired in 1862 with a pension larger than any before bestowed upon a Swedish subject. His sister Caroline, born in 1800, was a girl of unusual beauty. As a boy John was the wonder of the neighborhood. The machinery at the mines was to him an endless source of curiosity and delight. He was constantly trying to make models, even before he had learned to read. He had from his own plans constructed a miniature saw-mill prior to his tenth birthday, and made numerous drawings of a complicated character. The graphic account of his youth and early manhood which his biographer presents is full of suggestion and instruction. The boy was too much occupied with his contrivances to join in the pastimes of other children. His opportunities were unusually stimulating. The project of the Göta Canal Company, one of the most formidable undertakings of its kind, was revived when he was about ten years old, his father being appointed one of its engineers, holding place next to that of the chief of the work. This opened a new world of ideas, and the little fellow undertook all manner of schemes. He was independent of outside assistance. Steel tweezers, borrowed from his mother's dressing-case and ground to a point, furnished him with a drawing pen, and his compasses were made of birch-wood with needles inserted at the end of the legs. Later on, he robbed his mother's sable cloak of the hairs required for two small brushes, in order to complete his drawings in appropriate colors. The clever lad attracted the notice of some of the greatest mechanical draughtsmen in Sweden, who made him drawings to serve as models, and taught him many of the principles of the art. Finally the celebrated engineer, Count Platen, becoming interested, appointed him a cadet in the corps of mechanical engineers; and such was his progress in sketching profiles, maps, and drawings for the archives of the canal company, that in 1816, at the age of thirteen, he was made assistant leveller at the station of Riddarhagen. The next year he was employed to set out the work for six hundred operatives, though he was yet too small to reach the eye-piece of his levelling instrument without the aid of a stool carried by an attendant. Thus it will be seen that he was identified almost from his cradle with great engineering works. His father died in 1818, and in 1820, when seventeen, he entered the Swedish army as an ensign and was rapidly promoted to a lieutenancy.

The skill of young Ericsson in topographical drawing was so marked that he

was soon summoned to the royal palace to draw maps to illustrate the campaigns of the marshal of the empire. He also passed with distinction a competitive examination for an appointment on the survey of Northern Sweden. This new employment was exacting, and the pay determined by the amount of work accomplished. Mr. Church says: "The young surveyor from the Göta Canal was so indefatigable in his industry and so rapid in execution, that he performed double duty and was carried on the pay-roll as two persons in order to avoid criticism and charges of favoritism. The results of his labors were maps of fifty square miles of territory, still preserved in the archives of Stockholm."

At the age of twenty-one John Ericsson is described as "a handsome, dashing youth, with a cluster of thick, brown, glossy curls encircling his white, massive forehead. His mouth was delicate but firm, nose straight, eyes light blue, clear and bright, with a slight expression of sadness, his complexion brilliant with the freshness and glow of healthy youth. The broad shoulders carried most splendidly the proud, erect head. He presented, in short, the very picture of vigorous manhood. A portrait of him at this age, painted upon ivory for his mother by an English artist named Way, has been preserved."

Fifteen years later he was in New York, and is thus described by Samuel Risley: "Captain Ericsson all his life was careful of his personal appearance; at the time I refer to (1839) he was exceptional in dress, not dandified, but more in keeping with the present morning-call attire than an ordinary day habit. A close-fitting black frock surtout coat, well open at the front, with rolling collar, showing velvet vest and a good display of shirt-front; a fine gold chain hung about his neck, looped at the first button-hole of the vest and attached to a watch carried in the fob of the vest. Usually light-colored, well-fitting trousers, light-colored kid gloves, and a beaver hat completed the dress. To this add a well-built military figure, about five feet ten and one-half inches in height and well set-up, with broad shoulders and rather large hands and feet; the head well placed and supported by a military stock round the neck. Expressive features, blue eyes, and brown curly hair, fair complexion. His head was of medium size, his mouth well cut, upper lip a little drawn, the jaws large and firm set, conveying an expression of firmness and individual character. Up to the summer of 1842 I was in constant attendance upon the captain, being a sort of factotum to him in preparing his models. At that time he boarded at the Astor House, where I first met his wife. His manner with strangers was courteous and extremely taking. He invariably made friends of high and low alike. With those in immediate contact in carrying out his work he was very popular."

Mr. Church, in his biography, devotes three chapters to a delightfully condensed account of Ericsson's career in England, whither he went in 1826 to exhibit his flame-engine. He quickly formed a partnership with John Braithwaite, a working engineer, and in his new field of activity produced invention after invention in such rapid succession that the truth reads like a fairy tale. An instrument for taking sea-soundings, a hydrostatic weighing-machine, his improvements in the steam-engine—dispensing with huge smoke-stacks, economizing

fuel, using compressed air and the artificial draught—and in surface condensation, were the work of this period, during which he also invented the steam fire-engine, which excited great interest in London. The famous battle of the locomotives in 1829 brought the young man of twenty-six before the English public in a manner never to be forgotten. At that date Stephenson himself dared not say very much about the speed of the locomotive. Had he ventured to predict that it would reach twenty miles an hour on the railway, he would have been laughed out of court. He cautiously expressed his faith in the possibility of running it ten miles an hour, and multitudes regarded the experiment with consternation There was great prejudice then existing in England against railroads. It was mode of conveyance that would bring noble and peasant to a common level, and fashion clung tenaciously to its earlier inconveniences, which had at least the merit of being exclusive.

But in spite of the baleful prophecies concerning the locomotive engine, the officials of the projected railroad between Liverpool and Manchester, where the cars were expected to be drawn by horses, offered a premium of £500 for the best locomotive capable of drawing a gross weight of twenty tons at the rate of ten miles an hour. The conditions required a run of seventy miles. Five months were allowed for building the engines. Ericsson heard of the project only seven weeks before the appointed time of trial, and at once determined to compete. He hastily built the "Novelty," assisted by Braithwaite, and when the exhibition came off his was practically the only locomotive which disputed for the supremacy with Stephenson's "Rocket." But a portion of the railroad had yet been finished; thus the competing locomotives were compelled to cover their distance by making twenty trips back and forth over one and three-quarter miles of track. The excitement was intense. The London *Times* next morning said: "The 'Novelty' was the lightest and most elegant carriage on the road yesterday, and the velocity with which it moved surprised and amazed every beholder. It shot along the line at the amazing rate of thirty miles an hour! It seemed, indeed, to fly; presenting one of the most sublime spectacles of human ingenuity and human daring the world ever beheld."

Ericsson had really built a much faster locomotive than Stephenson's "Rocket;" and although it had been constructed with such celerity that it broke down before the final point was reached, and he thereby lost the prize, yet the superiority of the principle involved in it was universally recognized. John Bourn said: "To most men the production of such an engine would have constituted an adequate claim to celebrity. In the case of Ericsson, it is only a single star of the brilliant galaxy with which his shield is spangled." "We may imagine," writes Mr. Church, "the excitement following the announcement in the *Times* concerning the performance of the 'Novelty,' for to this engine England's great daily devoted chief attention. Railroad shares leaped at once to a premium, and excited groups gathered on 'change to discuss the wonderful event. The pessimists were silenced, and the art of modern railway travel inaugurated. A grand banquet was given in Liverpool to the directors and officers

of the railway and to the competing locomotive builders. Toasts and speeches followed; and if Ericsson did not carry home with him the £500 offered as a prize, he at least made himself known to all England as one of the rising men of his profession.

Ericsson's long-cherished plan of a caloric engine was realized in 1833, and was hailed with astonishment by the scientific world of London. Lectures were delivered on it by Dr. Dionysius Lardner and Michael Faraday, and it was much praised by Dr. Alexander Ure and Sir Richard Phillips. In 1836 Ericsson invented and patented the screw propeller, which revolutionized navigation, and in 1837 built a steam vessel having twin screw propellers, which on trial towed the American packet-ship Toronto at the rate of five miles an hour on the river Thames. In 1838 he constructed the iron screw steamer Robert F. Stockton, which crossed the Atlantic under canvas in 1839, and was afterward employed as a tug-boat on the Delaware River for a quarter of a century. Within ten years Ericsson patented thirty inventions considered by him of sufficient importance to claim a place in the list that in 1863 numbered one hundred.

A notable feature of the admirable work of Mr. Church is the elucidation of the truth, so often overlooked, that events never spring into being disjoined from antecedents leading to them. He explains how the varied achievements of John Ericsson were developed, showing with great force and in imperishable colors the steps to his successes, and the help the famous engineer derived in later life from the studies and experiments of his earlier career. Mr. Church, as the literary executor of Ericsson, has had unrivalled opportunities for examining the accumulation of data which throw light all along the way, and while dealing with the masterly engineering exploits of his subject, does not forget that he had a human side, and presents him with all his hopes and fears and failures, his aims, his obstacles, his courage, and his habits and eccentricities. Ericsson certainly cherished a very high ideal, and was free to an unusual extent from mercenary motives. His inventions did not always pay; he found this a weary world for those who see beyond their fellows. Some of his mechanical contrivances in common use to-day dated so far back of the memory of any one living that before he died he often learned that he was supposed to have copied from others what he, in fact, originated himself or first brought into use.

The barriers of tradition and prejudice had to be overcome with his every new invention. The introduction of steam in any shape to the English navy was sharply opposed. It is interesting to trace the incidents, apparently without connection, which stand in orderly relations one to another as essential parts of an intelligent design. Ericsson was in America at the critical moment when all the experiences of his previous life were to be brought into full play; when he was to take part in an enterprise involving the existence of a nation, the hopes of humanity. He was ready to meet the strain of a demand to which no other living man was adequate. He was then fifty-eight years of age, with the constitution and the vital forces of a man of forty, and such experience in actual accomplishment as few acquire in the longest span of a lifetime.

When he received the order of our Government for the Monitor his plans were already drawn. He had been at work for years perfecting his system of aquatic attack, originally designed for the protection of Sweden against foreign aggression, and had in 1854 submitted his drawings to the Emperor of France. The story of his proceedings in Washington is familiar to our readers, but in these notable volumes of Mr. Church it is told with a fulness of detail never before attempted. The Monitor in all its parts was designed by Ericsson, and, fortunately for the country, he was allowed to superintend its construction. His former plans, however, had to be carefully revised to meet the novel conditions of life in a submerged structure. It was estimated that this iron-clad vessel contained at least forty patentable contrivances. The entire resources of modern engineering knowledge were brought to bear upon the solution of the problem of an impregnable battery, armed with guns of the heaviest calibre then known, hull shot-proof from stem to stern, rudder and propeller protected against the enemy's fire, and above all, having the advantage of light draught. Ericsson was made responsible for the successful working of his vessel in every respect. The anxiety of the Government was such that every stage in the progress of the work toward completion was watched with restless interest. Ericsson's nerves and sinews seemed to be made of steel. He scarcely took time to eat or sleep, and he was deluged with a continuous tempest of criticism, warning, and advice, from those who knew nothing about the intricacies of science involved in the undertaking. The least halting, even trifling delay, confusion of mind, or weakness of body, and the story of Hampton Roads might not have been written.

The Monitor was finished and left the harbor of New York for Washington on the afternoon of March 6, 1862, in tow of a tug, and accompanied by two naval steamers. Chief Engineer Alban S. Stimers, U. S. N., who was on the vessel as a passenger, described in a letter, dated March 9, 1862, to Ericsson, the dramatic incidents attending its arrival at Hampton Roads. "After a stormy passage we fought the Merrimac for more than three hours this forenoon, and sent her back to Norfolk in a sinking condition. Iron-clad against iron-clad, we manœuvred about the bay here, and went at each other with mutual fairness. I consider that both ships were well fought. We were struck twenty-two times—pilot-house twice, turret nine times, deck three times, sides eight times. The only vulnerable point was the pilot-house. One of your great logs (nine by twelve inches thick) is broken in two. The shot struck just outside of where the captain had his eye, and disabled him by destroying his left eye and temporarily blinding the other. She tried to run us down and sink us as she did the Cumberland yesterday, but she got the worst of it. Her horn passed over our deck, and our sharp, upper-edged rail cut through the light iron shoe upon her stern and well into her oak. She will not try that again. She gave us a tremendous thump, but did not injure us in the least; we were just able to find the point of contact. The turret is a splendid structure. You were very correct in your estimate of the effect of shot upon the man on the inside of the turret, when it struck near him. Three men were knocked down, of whom I was one. The other two had

to be carried below, but I was not disabled at all, and the others recovered before the battle was over. Captain Worden (afterward admiral) stationed himself at the pilot-house. Greene fired the guns, and I turned the turret until the captain was disabled and was relieved by Greene, when I managed the turret myself, Master Stoddard having been one of the two stunned men.

"Captain Ericsson, I congratulate you upon your great success; thousands here this day bless you. I have heard whole crews cheer you; every man feels that you have saved the nation by furnishing us with the means to whip an iron-clad frigate that was, until our arrival, having it all her own way with our most powerful vessels."

If space permitted, it would be interesting to trace the career of Ericsson in detail after the success of the Monitor. There was an imperative demand for armor-clads, and ere long several were built by the inventor and his associates. Ericsson was never idle. In connection with his labors upon war vessels he expended no small amount of ingenuity on the improvement of heavy guns, his efforts in this field being directed by a most exhaustive study into the strength of materials, the operation of explosive forces, and the laws governing the flight of projectiles. In 1869 he constructed for the Spanish Government a fleet of thirty steam gunboats, intended to guard Cuba against filibustering parties. In 1881 he devised his latest war vessel, the Destroyer, the object of which he said was "simply to demonstrate the practicability of submarine artillery, unquestionably the most effective, as well as the cheapest, device for protecting the seaports of the Union against iron-clad ships. I do not," he continued, "seek emoluments, as I am financially independent; but I am anxious to benefit the great and liberal country which has enabled me to carry out important works which I should not have carried out on a monarchical soil." His investigations included computations of the influences which retard the earth's rotary motion; he erected a "sun motor" in 1883, to develop the power obtained from the supply of mechanical energy in the sun, and he contributed numerous valuable papers to various journals in America and Europe on scientific, naval, and mechanical themes.

The year in which John Ericsson reached the culmination of his fame, 1862, was the same in which his brother Nils retired from active life in Sweden. The latter had retained his position on the Göta Canal when his brother left it in 1820, and gradually won his way to fame and fortune. "He was a man of industry and energy, of sterling integrity and public spirit, and an excellent organizer; while his conservative and cautious temperament and his skill in bending others to his purposes enabled him to make the most of his opportunities." After he received his title he altered the spelling of his name and became Baron Ericson. This change gave great offence to John, who wrote to Nils: "I can never forget the unpleasantness caused me by this annulling of relationship. Possibly your wife has had her share in it. If so, she will find some day that the blotted-out letter will cost her children half a million."

Some of the most interesting chapters in the work of Mr. Church relate to

the personal characteristics of John Ericsson. He was generous to his friends, and his benefactions to Sweden were considerable. The financial side of his affairs from year to year appears, as well as the record of his failures and successes. It is difficult to grasp the whole man and present him to the reader in all his many-sided aspects, or to touch upon the variety of his studies, endeavors, schemes, and achievements, without danger of bewilderment. His biographer has done all this, however, in the most skilful and acceptable manner.

A list of the honors conferred upon Ericsson would fill one of our pages, and some of the medals received were very beautiful. He was decorated as Knight of the Order of Vasa, which was founded by Gustavus III. to reward important service to the nation; he was made Knight Commander of the Order of the North Star, for promoting the public good and useful institutions; a Commander of the Order of St. Olaf, to reward distinction in the arts and sciences; received the Grand Cross of the Order of Naval Merit, with the white badge and star, from King Alfonso of Spain, which confers personal nobility and bestowed upon Ericsson the title of "Excellency;" a special gold medal from the Emperor of Austria, in behalf of science; a gold medal from the Society of Iron-Masters in Sweden; thanks under the royal seal and signature from Sweden; joint resolutions of thanks from the United States Congress; thanks from the Legislatures of New York and of other States; from the Chamber of Commerce; from boards of trade in many cities; and he was elected to honorary membership in scientific, historical, literary, religious, and agricultural institutions innumerable. Among them all he took the most pride in his simple title of captain, and in the diploma of LL. D. received from the Wesleyan University in 1862.

WILLIAM LLOYD GARRISON*

By William Lloyd Garrison

(1805–1879)

William Lloyd Garrison, whose name is indissolubly connected with the abolition of American slavery, was born in the seaport town of Newburyport, Mass., on December 10, 1805. His father, Abijah Garrison, was a sea-captain who came from New Brunswick to settle in Newburyport. Deserting his wife and children while the subject of this sketch was in infancy, his subsequent career is shrouded in mystery. Fanny Lloyd, the mother of William Lloyd Garrison, was a woman of remarkable character and personal attraction, with an intense religious nature. Dependent upon her own efforts for the support of the family, she cheerfully took up the calling of monthly nurse, and endeavored to rear her children with care and forethought, and with especial attention to their religious training. Upon her removal to Lynn, in 1812, Lloyd was left to the care of Deacon Eze-

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kiel Bartlett and was sent to the Grammar School until, at the age of nine, he joined his mother in Lynn and was taught shoemaking in the shop of Gamaliel W. Oliver, a kind and excellent member of the Society of Friends, where his elder brother James was already an apprentice. In 1815, Mr. Paul Newhall, a shoe manufacturer of the same town, deciding to establish business in Baltimore, invited Mrs. Garrison and her two boys to accompany him. There Lloyd was employed as an errand-boy and James was again apprenticed at shoe-making. Mr. Newhall's venture proving unsuccessful, Mrs. Garrison was constrained to resume nursing and Lloyd was sent back to Newburyport, his brother betaking himself to the sea. From Newburyport he was sent to Haverhill to learn cabinet-making; but, in spite of kind treatment, he disliked the occupation and ran away from his master, returning to Newburyport to live again with his mother's old friend, Deacon Bartlett. In 1818, Ephraim W. Allen, proprietor of the Newburyport *Herald*, accepted Lloyd, then thirteen years of age, as an apprentice and taught him the printer's trade. Here at once he found a vocation suited to his tastes and became a rapid and accurate compositor. The printing-office proved an excellent school for the young man, developing his literary taste and ambition. He was fond of reading, and delighted in poetry and fiction. Politics especially attracted him, and at the age of sixteen he wrote anonymous articles for the columns of the *Herald*. His first contribution was over the signature of "An Old Bachelor." He was an ardent Federalist and his political articles attracted attention by their forcible reasoning and direct style. Caleb Cushing, then editor of the *Herald*, discovering the lad's abilities, encouraged and befriended him. In 1826, Mr. Garrison, closing his apprenticeship with the *Herald*, became editor and publisher of the *Free Press* (Newburyport), within a few months of his majority.

It was to this paper that Whittier made his first poetical contributions anonymously, and, upon the discovery of his true name, Mr. Garrison sought him out and encouraged him in his youthful efforts.

After a brief existence of six months, the *Free Press* was sold and Mr. Garrison again became a journeyman printer, soon seeking employment in Boston, where, after various vicissitudes, he was employed by Rev. William Collier, a Baptist city missionary, upon *The National Philanthropist*, devoted to the "suppression of intemperance and kindred vices," becoming its editor in 1828. The paper had the distinction of being the first temperance journal ever printed, and among the earliest evidences of Mr. Garrison's interest in the slavery question was an editorial article by him commenting severely on the bill passed by the House of Assembly of South Carolina to forbid the teaching of reading and writing to the colored people.

To Benjamin Lundy, a Quaker, and at that time editor of the *Genius of Universal Emancipation*, in Baltimore—a paper devoted to the gradual abolition of slavery—belongs the honor of first attempting to awaken public sentiment on the subject. Upon his visit to Boston, August 7, 1828, he made the acquaintance of Garrison, whose eyes he opened to the iniquity of the slave system. During the same year Mr. Garrison accepted the invitation of a committee of prominent citizens of Bennington, Vt., to edit the *Journal of the Times*, a weekly newspaper devoted to the re-election of John Quincy Adams against Andrew Jackson. While started for campaign purposes, the *Journal of the Times* declared for independence of party and advocated the suppression of intemperance, the gradual emancipation of the slave, the doctrines of peace, and the so-called American system of protection for fostering native industry.

Attracted by the anti-slavery utterances of Mr. Garrison, Lundy resolved to invite him to share in the editorship of his paper, walking from Baltimore to Bennington for the purpose. His earnestness had the desired effect upon Mr. Garrison, who accepted his proffer and relinquished the *Journal of the Times*. Before going to Baltimore Mr. Garrison was invited to address the Congregational societies of Boston on July 4th, at the Park Street Church, and took for his theme "Dangers to the Nation." The poet John Pierpont was present and wrote a hymn for the occasion. The address was a stirring denunciation of slavery and a rebuke to the nation for its pretentious devotion to liberty. The speaker was accused by a Boston paper of slandering his country and blaspheming the Declaration of Independence.

Upon his arrival at Baltimore, Garrison, having convinced himself of the necessity of immediate and unconditional emancipation, it was agreed, inasmuch as Lundy adhered to the methods of gradual emancipation, that each should sign his own editorials.

Mr. Todd, a Newburyport merchant, having allowed his ship to be used in the inter-state slave trade between Baltimore and New Orleans, Mr. Garrison faithfully denounced in unmeasured terms his fellow-townsman, and asserted the equal wickedness of the domestic slave trade with that of the foreign traffic, which, at that time, was in the law considered piracy. Arrested, tried, and convicted of libel, although the facts were proven, Garrison was incarcerated in the Baltimore jail, April 17, 1830, in default of a fine of $50 with $50 costs. Undaunted in his captivity, he continued to write his protest against slavery and to record in verse his feelings. His famous sonnet, "The Immortal Mind," was written with pencil upon the walls of his cell. Liberated at the expiration of forty-nine days, through the generosity of Arthur Tappan, of New York, who paid his fine, Garrison visited Boston and Newburyport, endeavoring to speak in both places, but the doors of halls and churches were closed against him. At last the hall used by a society of avowed infidels, in Boston, to whom Abner Kneeland preached, was opened to Mr. Garrison for three anti-slavery lectures, and among the audience at his first lecture were Samuel J. May, Samuel E.

Sewall, and A. Bronson Alcott, who then gave in their adhesion to the cause. Dr. Lyman Beecher was also present but made no sign.

On January 1, 1831, appeared the first number of *The Liberator*, in Boston, bearing for its motto, "Our Country is the World—Our Countrymen are Mankind." Mr. Garrison, as editor, was assisted by Isaac Knapp, a fellow-printer from Newburyport, as publisher. . The paper was issued at No. 6 Merchants' Hall, at the corner of Congress and Water Streets, in the third story, the partners making their home in the printing-office. It was this office that Harrison Gray Otis, the mayor, at the request of ex-Senator Hayne, ferreted out through his police, describing it as "an obscure hole," containing the editor and a negro boy, "his only visible auxiliary," while his supporters were "a very few insignificant persons of all colors." Lowell has thus described it in a different spirit:

> "In a small chamber, friendless and unseen,
> Toiled o'er his types one poor, unlearned young man;
> The place was dark, unfurnitured, and mean,
> Yet there the freedom of a race began."

In the initial editorial appeared the famous declaration of Mr. Garrison, "I am in earnest—I will not equivocate—I will not excuse—I will not retreat a single inch—and I will be heard." Although its circulation was meagre, the publication of *The Liberator* made a tremendous sensation throughout the South, bringing upon its editor abusive and threatening language, and, at the North, unpopularity and persecution. The Legislature of Georgia offered a reward of $5,000 for his arrest and conviction.

In 1832, the New England Anti-Slavery Society was organized in Boston, and the campaign for "immediate and unconditional emancipation" begun. The Colonization Society, which Mr. Garrison formerly supported but later denounced, became the object of special attack as an ally of the slave power, and, to counteract its designs, he sailed for England, May 2, 1833, to expose its pro-slavery purposes to the English abolitionists. He was cordially received by Wilberforce, Buxton, Zachary Macaulay, Daniel O'Connell, and their associates in the struggle for West India emancipation, and before he left the kingdom he witnessed the passage of the Emancipation Act, and was present at the funeral of Wilberforce, in Westminster Abbey. Returning from his successful mission abroad he narrowly escaped the hands of a New York mob on landing upon his native soil.

In December, 1833, the American Anti-Slavery Society was formed, in Philadelphia, and Mr. Garrison drew up its famous Declaration of Sentiments, which numbered among its signers many of the men and women destined to be distinguished in the anti-slavery cause, among whom was the poet Whittier.

On September 4, 1834, Mr. Garrison was married to Miss Helen Eliza Benson, of Brooklyn, Conn.; a fortunate and happy union.

In 1835, the eminent English orator, George Thompson, came by invitation to the United States to assist in the emancipation of the American, as he had of

the West Indian, slave. The announcement that he would speak at a meeting of the Ladies' Anti-Slavery Society, held in Boston, October 21st, of the same year, was the occasion of a mob composed of wealthy and respectable citizens of Boston who aimed to suppress free speech and tar and feather Mr. Thompson. He was, however, prevented from attending by his friends, but the fury of the mob fell upon Mr. Garrison, who was seized and led through the streets with a rope around his body, from which position he was rescued through the efforts of Mayor Lyman and imprisoned for safety in the Leverett Street jail. This outrage created new friends and gave fresh impetus to the abolition movement.

In 1840 Mr. Garrison again visited England as a delegate of the World's Anti-Slavery Convention in London, in which body, however, he declined to sit, because the women who were his fellow-delegates from America were excluded.

Occupied continuously with the care of *The Liberator* and in lecturing, Mr. Garrison led an intensely active life, not confining himself alone to the anti-slavery reform but embracing among other reforms those of temperance, non-resistance, women's rights, and religious freedom. For, while educated by his mother in the strict tenets of the Baptist faith, he early experienced a change of theological views and cast off sectarian bonds. *The Liberator* was used for the expression of his individual beliefs and was not the organ of any society.

In 1846, the Free Church of Scotland having sent emissaries to the United States to collect funds from the slaveholders, Mr. Garrison again went to England to urge the Church to return the money thus contributed, and, in company with George Thompson, Frederick Douglass, Henry C. Wright and others, agitated the question throughout Scotland.

Convinced that the constitutional compact of the North with the South to guard and protect slavery was immoral and unjust, in 1843 Mr. Garrison raised the banner of No Union with Slave-Holders, and advocated the dissolution of the Union for the sake of freedom, a step which added fresh fuel to the flames of persecution and incurred the loss of many lukewarm adherents.

In 1850, the apostasy of Daniel Webster and the passage of the Fugitive Slave Law increased the national ferment. The same year witnessed the famous Rynder's mob, in New York, and the anti-slavery meeting at the Tabernacle, at which Mr. Garrison spoke, was violently broken up.

The abolition movement had now assumed formidable proportions, dominating the national parties and dictating issues. The Whig party fell to pieces in consequence, and to it succeeded the Republican party, with Sumner, Seward, Wilson, Giddings, and other earnest men as leaders. Meanwhile Harriet Beecher Stowe, by her famous novel, "Uncle Tom's Cabin," had given a vivid picture of the wrongs of American slavery to the world. The "irrepressible conflict" was now rapidly tending to its crisis, and, on the election of Abraham Lincoln to the Presidency by the Republican party, in 1860, the signal for civil war was given, and, in 1861, the struggle of arms inaugurated by the attack on Fort Sumter replaced the peaceful crusade of the abolitionists.

The moral agitation of thirty years had produced its legitimate results, and

when, in 1863, the President promulgated the emancipation proclamation the anti-slavery chapter was closed. The Union, which heretofore had been paramount to liberty, was now subordinated to it, and Mr. Garrison's antagonism necessarily ceased with the new amendment to the Constitution. He had been accustomed to denounce that instrument as a "covenant with death and an agreement with hell," but, as he expressed it, he had "never expected to see Death and Hell secede." Foreseeing the inevitable consequence of the war, he gave heartily his moral support to the Government in the struggle between it and the slave power. His non-resistance principles and abhorrence of war in no way diminished his interest in the great conflict, and his sympathies of necessity were with the soldiers of freedom. His eldest son, George Thompson Garrison, not sharing his father's scruples, enlisted in the Fifty-fifth Colored Regiment of Massachusetts Volunteers, attaining the rank of captain.

The renomination of Lincoln for a second term, in 1864, developed a breach in the ranks of the old abolitionists, Mr. Garrison and his adherents supporting Lincoln, and others, under the lead of Wendell Phillips, advocating the choice of General Fremont. The latter candidate, however, withdrew from the field before the election.

In April, 1865, Mr. Garrison, with his English friend George Thompson, was invited by the Government to be present as its guest at the ceremony of raising the Stars and Stripes above the surrendered Fort Sumter, and was received at Charleston with great enthusiasm by the emancipated slaves. The news of President Lincoln's assassination hastened the return of the party to the North.

The practical extermination of the slave system by the adoption of the 13th Amendment convinced Mr. Garrison that the purpose of the Anti-Slavery Society and of *The Liberator* had been accomplished. He therefore withdrew from one and discontinued the other. After thirty-five years of a stormy and precarious existence the last number of *The Liberator* was issued December 29, 1865. "Nothing could have been more in keeping with the uniform wisdom of your anti-slavery leadership than the time you chose for resigning it," wrote Lowell to Mr. Garrison a year later.

The recognition of the pioneer's unselfish service thereupon took shape in a national testimonial reaching a sum exceeding thirty thousand dollars, thenceforth lifting his life above the pecuniary cares which had so long weighed upon it. A domestic grief in the shape of a paralytic shock to his faithful wife occurred in December, 1863, compelling a change of home from the city to an attractive suburban house in Roxbury, known as Rockledge.

Although his great life-work was finished, Mr. Garrison abated no activity in the various reforms in which he had enlisted. Both with voice and pen he reached a wider and more attentive public, pleading for justice to the freedman, for the legal emancipation of women, the right of the Chinese to free immigration and Christian treatment, freedom of trade (for he early eschewed his youthful belief in the protective system), and for kindred causes.

Visiting England for the fourth time in 1867, a public breakfast was given in

Mr. Garrison's honor at St. James's Hall, June 29th. John Bright presided, and among the addresses of welcome were those of Earl Russell, the Duke of Argyll, John Stuart Mill, George Thompson, and W. Vernon Harcourt. Later the freedom of the city of Edinburgh was conferred upon the American abolitionist, and in August he attended the International Anti-Slavery Conference at Paris, representing the American Freedman's Union Commission, and meeting Laboulaye, Cochin, and other eminent Frenchmen.

The troubled period of reconstruction, involving the defence of the freedmen's rights, found no more interested observer and participant than Mr. Garrison. The former hostile treatment which had been meted out to him by press and party was of the past, and, like Lincoln,

> "He heard the hisses change to cheers,
> The taunts to tribute, the abuse to praise,
> And took both in the same unwavering mood."

Unique among reformers, he received in life the reverence that usually reveals itself in post-mortem honors which indicate the late awakening of public consciousness and suggest the pathos of their delay.

The felicities of domestic life were his in more than ordinary measure, and "honor, love, obedience, troops of friends," made his closing years as serene as his opening career had been stormy. Occasional ailments reminded him of advancing age, but his temperamental cheerfulness and faith in human progress never forsook him.

The death of his dear wife, in 1876, was a visible blow to him, and in the next year, for physical and mental recuperation, he visited England again for the last time, with his son Francis, enjoying a delightful reunion with old friends and making new ones, as was his wont.

In May, 1879, during a visit to his daughter in New York, he breathed his last on the 24th of the month, with all his children about him. He left four sons, named respectively, George Thompson, William Lloyd, Wendell Phillips, and Francis Jackson, and an only daughter, Helen Francis, the wife of Henry Villard. Two others, a daughter and a son, died at an early age.

In 1885, Mr. Garrison's biography, written by his sons Wendell Phillips and Francis Jackson, was published by the Century Company, in four volumes, octavo. They contain not only the personal details of a famous career, but a careful history of the abolition struggle. To them the future historian must look for the most faithful picture of the anti-slavery times and their leader.

A bronze statue of heroic size, executed by Olin L. Warner, of New York, representing Mr. Garrison in a sitting posture, was presented to the city of Boston by several eminent citizens, in 1886, and is placed on Commonwealth Avenue, opposite the Hotel Vendome.

Mr. Garrison's calm estimate of himself has been preserved and may fitly conclude this sketch:

"The truth is, he who commences any reform which at last becomes one of

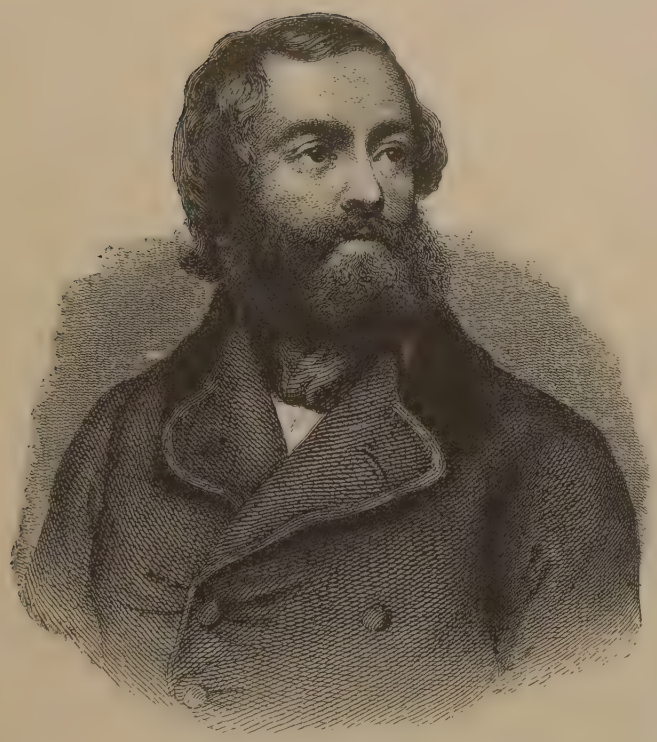
transcendent importance and is crowned with victory, is always ill-judged and unfairly estimated. At the outset he is looked upon with contempt, and treated in the most opprobrious manner, as a wild fanatic or a dangerous disorganizer. In due time the cause grows and advances to its sure triumph; and in proportion as it nears the goal, the popular estimate of his character changes, till finally excessive panegyric is substituted for outrageous abuse. The praise, on the one hand, and the defamation on the other, are equally unmerited. In the clear light of reason, it will be seen that he simply stood up to discharge a duty which he owed to his God, to his fellow-men, to the land of his nativity."

Wm Lloyd Garrison

ELISHA KENT KANE*

By General A. W. Greely

(1820–1857)



Elisha Kent Kane, son of Judge John K. Kane, was born in Philadelphia, February 3, 1820. In his youth he displayed those qualifications of ceaseless activity, daring adventure, and strong personal courage which characterized his mature manhood. Inclined to all efforts involving physical hardships and contact with nature, his early education was devoted to civil engineering and such natural sciences as chemistry, geography, geology, and mineralogy. Unfortunately, in his sixteenth year, chronic and functional heart disease developed, which intermittently affected him through life and deterred him from the profession of an engineer. Applying himself to medicine, he graduated therein in 1842 at the University of Pennsylvania, in the meantime having served as a resident physician of the Pennsylvania Hospital. His inaugural medical thesis, based on personal experiments and observations, gave him a reputation which augured professional

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prominence. In 1843 he was appointed physician to the United States embassy to China, under Caleb Cushing, who was charged with the negotiation of a treaty with that country. At the way ports and during the tedious intervals of the treaty negotiations, Kane lost no opportunity of travel and adventure. With Baron Löe he visited the Philippine Islands and the volcano of Tael. Not content with the usual point of view, and despite the protestations of the native guides, he was lowered two hundred feet in the crater, whence he scrambled downward to the smoking sulphur lake and dipped his specimen bottles into its steaming waters. In his ascent the loose, heated ashes charred his boots and gave way under his feet, the sulphur vapors nearly asphyxiated him, he fell repeatedly, and was barely able to tie the bamboo rope around him. Drawn up in an exhausted condition, and carried to a neighboring hermitage, he barely escaped violence at the hands of the offended natives, who considered his rash feat a sacrilege.

Resigning his appointment with the legation, Kane established himself as a physician at Whampoa, on the Canton River, where illness shortly broke up his professional practice. Fortunately for his future fame he was unsuccessful in his application to the Spanish Government for permission to practise medicine at Manilla, and Kane returned to the United States by the way of Singapore, India, Egypt, and Europe, his journey marked by adventure and danger. In these, as in all other sea voyages, he suffered excessively from sea-sickness, which required all of his indomitable will to endure with equanimity.

In 1846 he was commissioned assistant surgeon in the United States Navy; his first sea duty took him to the west coast of Africa, where coast fever invalided him within ten months. His desire for active service was so great that before his health was re-established he obtained orders from the Secretary of the Navy to proceed to headquarters of the army, then in the City of Mexico, for duty in connection with the collection of data relative to field hospitals and surgical statistics. Here his activity and daring resulted in his being wounded in a guerilla skirmish.

Assigned temporarily to a surveying vessel, circumstances soon determined Kane's career and gave full scope to his enthusiastic energies, and insured his future fame. The appeals of Lady Franklin, the recommendations of President Taylor, and the generosity of Henry Grinnell, had culminated in the organization of a search expedition for Franklin in the Arctic regions. It was provided that the vessels should be manned by volunteers from the Navy, and among those offering their services for this mission of humanity none was more importunate than Kane. Persistent efforts brought him orders for this fateful voyage while bathing in the tepid waters of the Gulf of Mexico, and ten days later he sailed from New York for the icy wastes of the North as surgeon of De Haven's flagship, the Advance. This search, known in Arctic history as the First Grinnell Expedition, was made under a joint resolution of the Congress of the United States, dated May 2, 1850, "to accept and attach to the Navy two vessels offered by Henry Grinnell, Esq., to be sent to the Arctic seas in search of Sir John

Franklin and his companions." Two very small sailing brigs constituted the fleet, the flag-ship Advance, commanded by De Haven, an officer of Antarctic experience under Wilkes, and the Rescue, under Master Griffin ; the entire party numbered thirty-three officers and men.

Their objective point was Lancaster Sound and its westward extension, Barrow Strait, whence either or both Wellington Channel and Cape Walker were to be visited. The squadron passed safely through Davis Strait, and skirting the dreaded land-ice of Melville Bay, reached Cape York after three weeks of constant and dangerous struggle with the heavy ice, which nearly destroyed the Rescue, borne almost on her beam-ends by the enormous pressure from a moving ice-pack. De Haven fell in with the English squadrons on the same errand, August 19, 1850, and, entering Lancaster Sound with his British consorts, devoted his energies to the search in hand. Griffin, of the Rescue, shared with Captain Ommaney, R. N., the honors of the discovery, at Beechy island, of the wintering-place of Franklin's squadron in 1845–46. Later three graves of members of Franklin's party were found, and numerous evidences of the good condition and activity of the expedition during that winter. About three weeks later, on September 10, 1850, De Haven concluded that the position attained was not sufficiently advantageous to justify his wintering, and so decided to return to the United States. Unfortunately, strong gales and very cold weather prevented immediate action, and in a few days both brigs were frozen immovably in an enormous ice-pack, where they were destined to drift helplessly to and fro at the mercy of the winds and currents for many months.

Beset in Wellington Channel, to the north of Beechy Island, the American squadron first found itself drifting slowly, but with alarming steadiness, to the north, into waters and along coasts that had, as far as they then knew, never been visited. The drift carried the Advance to latitude 75° 25′ north, longitude 91° 31′ west, and on September 22d they discovered new land, to which De Haven gave the merited name of Grinnell. It proved to be an integral part of North Devon, of which it was the northwestern extension. Every few days there was a partial breaking up of the pack and consequent danger of destruction. On one occasion, says Kane : "We are lifted bodily eighteen inches out of water. The hummocks are reared up around the ship, so as to rise a couple of feet above our bulwarks, five feet above our deck. They are very often ten and twelve feet high, and threaten to overwhelm us. Add to this, darkness, snow, cold, and the absolute destitution of surrounding shores." The temperature fell below zero and the ships seemed destined to winter in Wellington Channel, but fortunately a strong northwest gale, in conjunction with heavy tides, disintegrated the main pack and set ships, ice and all, southward into Barrow Strait. Here they fell under the action of a southeasterly current and, drifting all winter, passed slowly through Lancaster Sound into Baffin Bay, where the opening polar summer found them yet fast in the ice, from which the two brigs were freed off Cape Walsingham, June 5, 1851, after drifting in eight and a half months a distance of ten hundred and fifty miles. It is impossible to adequately describe their physical dis-

comforts and dangers, the mental depression of the sunless midwinter of eight weeks, and the even harder experiences of the Arctic spring-tide, when excessive cold and increasing lassitude made steady inroads on their impaired constitutions. Kane tells us they were continually harassed by uncertainties as to their ultimate fate. Yesterday the unbroken floe, stretching as far as the eye could reach, seemed so firm and stable as to insure months of quiet, uninterrupted life. To-day, the groaning, uneasy pack, yielding to an unseen power, split and cracked in all directions, throwing up huge masses of solid ice, that threatened to destroy instantly the ship, and occasionally opened in wide cracks through which rushed the open sea. Indeed, the conditions were so critical and the ice-movements so rapid, that the entire party, within the brief space of twenty-four hours, had four times made ready to abandon their vessels.

In March the cold became intense, and for a week it averaged fifty-three degrees below the freezing-point. Scurvy assailed all but five of the crew, and De Haven was so ill that all his duties devolved on Griffin, who heroically bore up under disease and the mental and moral responsibilities that the situation forced on him. In all his efforts Griffin had no more effective coadjutor than the fleet-surgeon, Kane. Whether acting as a medical officer, treating skilfully the diseased crew; as a hunter, supplementing their scanty stock of anti-scorbutic food with the fresh meat of the seal; or as a man, devising means of amusement and stimulating them to mental and physical exertions, Kane incessantly displayed such qualities of cheerfulness, activity, and ingenuity as tended to dispel the pall of despair that sometimes enveloped the whole expedition.

When release from the ice permitted the voyage to be renewed, De Haven decided to refit in the Greenland ports and again return to Lancaster Sound; fortunately, as the squadron was not fitted for a second year's work, the ice in Melville Bay was such as to prevent immediate passage, and so they turned southward, reaching the United States on September 30, 1851.

Such desperate experiences as those involved in the mid-winter drift of the Advance, would have deterred most men for a time from a second voyage, but with Kane the stimulus to future work apparently increased with every league that he sailed southward. The ship was hardly in port before he initiated a plan for another expedition in the spring of 1852. This failing, he wrote Lady Franklin in May, offering to go with Captain Penny, or any good sailing-master, to give his services without pay, and pledging himself to go to work and raise funds.

Finding it impossible to go with any British expedition, he turned his entire efforts to organizing another from America. His chivalric enthusiasm enlisted the sympathies and active support of Henry Grinnell and George Peabody, the first loaning the ship and the latter contributing $10,000 for general expenses. The United States again aided, not only putting Kane on sea-pay, but also attached ten men of the Navy, under government pay. Instruments, provisions, etc., were likewise supplied by the Secretary of the Navy, and aid in other directions was afforded by the Smithsonian Institution, the Naval Observatory, and other scientific associations. At this juncture the discoveries of Captain Ingle-

field, R. N., in Smith Sound, afforded to Kane a new route for his activities. The scheme, as far as the search for Franklin was concerned, was well-meaning, but none the less fallacious and illogical. Kane was personally cognizant of the fact that Franklin had gone into Lancaster Sound, and had wintered in 1845–46 at Beechy Island, plainly following the direct and positive orders of the Admiralty, that he should push southward from Cape Walker to the neighborhood of Behring Strait. Moreover, the last mail ever received from the Franklin expedition contained a letter from Captain Fitz-James, in which he stated that Franklin had shown him the orders, expressed his disbelief in an open sea to the north, and had given "a pleasant account of his expectations of being able to get through the ice on the north coast of America."

A search for Franklin by the way of Smith Sound, seventeen degrees of longitude and four degrees of latitude to the north and east of his last known position, was to assume not only that Franklin had disobeyed the strict letter of his instructions, but had also abandoned his voyage after having accomplished one-third of the distance from Greenland to Behring Strait.

As the initiator and inspirer of the expedition, Kane was the natural head of it, but there were difficulties in the way.

The assignment of a surgeon to the command of a naval expedition was unprecedented; but somehow Kane succeeded in overcoming even the time-honored observances of the Navy, and was placed in command by a formal order of the Secretary of the Navy in November, 1852.

Kane repeatedly set forth his belief in an open Polar sea, and announced his expectation of reaching it. The expedition was not alone a proposed search for Franklin, but especially contemplated the continuation to the northward of the discoveries made in 1851 by Captain Inglefield, on the west coast of Greenland. Kane declared his intention of reaching "its most northern attainable point, and thence pressing on toward the Pole as far as boats or sleds could carry us, examine the coast lines for vestiges of the lost party," and "seeking the *open sea* . . . launch our little boats, and embark upon its waters."

On May 30, 1853, the expedition left New York in the sailing brig Advance, there being seventeen members all told. The vessel was stanch, well-fitted, and suitable, the scientific instruments satisfactory, but the provisions were illy chosen for Arctic service, and the equipment in many respects inadequate or deficient. The Greenland ports supplied skin-clothing, dogs, and Eskimo dog-drivers; the latter being destined to play an important part in establishing harmonious relations with the Etah natives. On reaching Melville Bay, Kane decided to take the middle passage, direct through the dreaded pack—a most venturesome route for a sailing-vessel. Favored by an off-shore gale, the Advance escaped with the loss of a whale-boat, and emerged into the open sea near Cape York, known as the North Water. Stopped by the ice, Kane wisely decided to cache his metallic life-boat, filled with boat-stores, on Littleton Island, so as to secure his retreat, since, as he says: "My mind was made up from the first that we are to force our way to the north as far as the elements will let us."

The ice opening with the tide, Kane rounded Cape Hatherton and was now in Kane Sea; but the Advance was immediately driven into a cove for shelter. At the first opportunity sail was again made and a short distance gained to the east-northeast, when a violent gale nearly wrecked her. Repeated efforts to work the vessel to the eastward, along a lee coast, destroyed fittings and boat, and were so fruitful in danger that on August 26th seven out of his eight officers addressed Kane in writing, to the effect "that a further progress to the North was impossible, and [they] were in favor of returning southward to winter." Unfortunately, Kane was not "able conscientiously to take the same view," as such retreat would have left him in a less favorable situation to pursue his explorations. Two weeks longer the brig was warped to the east during high water, whenever she was not jammed by huge floes against the rugged coast; but at low water the brig grounded and was daily in danger of total destruction. Finally, on September 9th, she was put in winter-quarters in 78° 37′ N., 71° 14′ W., in Rensselaer Harbor, which, says Kane, "we were fated never to leave together—a long resting-place to her, for the same ice is round her still." Winter now advanced with startling rapidity and excessive severity; freezing temperatures now permanently obtained, the water-fowl were gone, and the scanty vegetation blighted. All were busy, some constructing a building for magnetic and meteorological observations, others making journeys along the eastern coast. Kane visited the high land adjoining Mary Minturn River, some fifty miles away, whence he could see Washington Land in the vicinity of Cape Constitution. Hayes and Wilson journeyed on the inland ice, while McGary with six others made three caches on the coast, the farthest being under the face of the largest of all Arctic glaciers, now known by the name of Humboldt. The winter proved to be unusually cold, the temperature, from December to March inclusive, averaging fifty-four degrees below the freezing-point of water. Most fortunately the men remained in health, but Kane grieved over the loss of his dogs, only a dozen surviving out of the original eighty.

In this contingency Kane decided to put his men in the field, and after two weeks of excessive cold, the temperature averaging seventy-seven degrees below freezing, a party was sent out while the mercury was yet frozen. Their orders were to reach Washington Land, about one hundred miles distant across the sea-ice. It soon became evident to Brooks, the commander of the party, that the journey was impossible of execution, and after eight marches, in which less than forty miles were traversed, he turned back on March 29, 1854. The cold that day was intense, about ninety degrees below freezing, and the next morning four men were frozen so badly that they could not walk. Only four men were left for work. The distance to the brig was thirty miles, while the intervening ice was so rough that they could not drag their disabled comrades. Hickey volunteered to remain, while Sontag, Ohlsen, and Petersen should go to the brig for help. The three men finally reached the Advance, but they were so physically exhausted and in such mental condition that they could not even indicate in what direction they had left their comrades.

Kane appreciated the gravity of the situation and the necessity of prompt measures. A relief party was at once started, which Kane led himself, despite his impaired health, physical weakness, and general unfitness for such a desperate journey; as always, he spared not himself when danger threatened. Ohlsen, being the clearest-headed of the sledgemen, was put in a sleeping-bag and dragged on a sledge as a guide.

Eighteen hours' travel were without tangible result; Kane fainted twice on the snow; his stoutest men were seized with trembling fits, and as yet no signs of the missing party. Fortunately Kane had taken the Eskimo, Hans Hendrik, whose keen eye discovered the track that led to the tent of the frozen men. They were alive, but crippled beyond the possibility of marching. The weather remained fine or all would have perished, and as it was, Hayes, the surgeon, in his report of their condition on reaching the brig, said: "I was startled by their ghastly appearance. When I hailed them they met me only with a vacant, wild stare. They were to a man delirious." Of the eight men only one returned sound; two shortly died, two others suffered amputations, and three escaped with temporary disabilities.

Three weeks later, on April 26th, Kane set out on what, to use his own words, "was to be the crowning expedition of the campaign, to attain the Ultima Thule of the Greenland shore." Impressed with the impracticability of a direct journey across the main ice-pack, he decided to follow the shore-line, five men dragging a sledge, while Kane and Godfrey travelled by dog-team. He had been led by his resolute spirit to overestimate the physical strength of his men and himself, and the party broke down before it had even approached the Humboldt Glacier. Their enthusiastic leader was stricken with fainting spells and rigidity of limbs, but Kane would not admit his illness to be more than temporary, and bidding the men strap him on the sledge, proceeded onward. His diminished physical powers now became evident through the freezing of his rigid and swollen limbs. Delirious and fainting at the end of the march, he was carried in an almost insensible condition to his tent, when his men wisely took the matter in their own hands and started back for the brig. Nine days later, through forced marches and heroic efforts of his sledge-mates, themselves partially disabled, Kane was carried on board the Advance fluctuating between life and death. Hardly conscious, his mind clouded, and his swollen features barely recognizable, his general condition was such that the surgeon regarded his ultimate recovery as nearly hopeless.

While Kane's recuperative powers were simply marvellous, yet he did not recover sufficiently to make another journey that spring. In this extremity he turned to his surgeon, Israel I. Hayes, who volunteered to explore the unknown shores of Grinnell Land, which lay in sight to the west of Smith Sound. With the seaman Godfrey as a companion and a dog-team as the means of transportation, Hayes struggled through the almost impassable floes and bergs of the main strait and finally attained Cape Hayes, on the western coast, in about 79° 45′ N. latitude. The return journey to the Advance was possible only by abandoning

everything that in the slightest degree impeded the progress of the exhausted men and famishing dogs.

This success caused Kane to make one more effort to reach the hitherto inaccessible Washington Land, and for this purpose he placed all his means at the disposal of one of his seamen, William Morton. A supporting party accompanied Morton to Humboldt Glacier, whence he proceeded with Eskimo Hans Hendrik and a dog-team on the advance journey. Their track lay over the sea-ice, about five miles from, and parallel with, the face of the glacier. Five days took them to the new land to the north, and three days later, June 24, 1854, Morton reached alone an impassable headland, Cape Constitution. From the highest attainable elevation Morton found his view completely cut off to the northeast, but between the west and north he could see the southeastern half of Kennedy's Channel as far north as Mount Ross, 80° 58′ N. He says "Not a speck of ice was to be seen as far as I could observe; the sea was open, the swell came from the northward . . . and the surf broke in on the rocks below in regular breakers." Morton described accurately the general landscape, but he was an incompetent astronomical observer, and his estimates of distances were excessive. The farthest point was charted nearly a hundred miles north of its true position, while Cape Constitution was placed 31 miles too far north by Morton and 52 geographic miles by Kane, who "corrected" Morton's observations by a series of erroneous bearings. Morton's general account of his explorations has been confirmed by Hans Hendrik in his Memoir written some years since in Eskimo.

In the meantime the Etah Eskimo, natives of Prudhoe land, had discovered the brig, and through the interpreter, Hans Hendrik, promptly established friendly relations with Kane. It may be said that the expedition owed its final safety to these natives; their supplies of fresh meat checked scurvy, and later their dog teams rendered retreat possible. Slight misunderstandings, not always the fault of the natives, naturally occurred, but the Eskimo were honest, humane, and willing, and never committed a hostile act.

The summer of 1854 justified the expressed fears of Kane's officers, for it passed with the ice yet unbroken in Rensselaer Harbor. It was evident in July that the brig would never be freed from the ice, and in this critical situation, Kane, taking five men in a whaleboat, attempted to reach Beechy Island, several hundred miles to the southwest, whence he expected to obtain succor from the English searching squadron. The unfavorable condition of the ice in Smith Sound caused the failure of this attempt, and, yet worse, encouraged the idea of dividing the party; an idea that culminated in the well-known "Arctic Boat Journey," as Dr. Hayes termed it. Despite Kane's futile experiences in July, the majority of the party maintained that a boat journey to Upernavik was both practicable and advisable. Confronted by this attitude of the expeditionary force, Kane assembled them, set forth the dangers of such an attempt, and vehemently urged them to abandon the project, which the lateness of the season and the unfavorable ice conditions rendered most improbable of success. Finally he granted the privilege of unfettered action to such as believed the journey practicable,

stipulating only that those leaving the vessel should renounce, in writing, all claims upon the expedition and should elect a leader. Nine elected to go, eight to remain. Kane displayed a magnanimous spirit, equipping them most liberally, and assuring them, in writing, that the brig should be ever open should disaster overtake them. The boat journey was a failure, and Kane bade them welcome when, early in December, he learned that the party, some two hundred miles distant and in imminent danger of perishing by starvation, was desirous of returning to the Advance. Kane promptly sent supplies to the suffering men, and, on December 12th, the entire crew was once again upon the brig.

The winter of 1854–5 passed wretchedly; the physical condition of the party steadily deteriorated; failing fuel necessitated the burning of the upper woodwork of the brig; their food was reduced to ordinary marine stores, and game failed equally to the hunters of the Advance and the persistent efforts of the Etah natives on the ice-clad land and in the frozen sea. In addition scurvy attacked the crew; Hayes lost a portion of his frozen foot, and hardly a man of the crew remained fit for duty. The necessity of abandoning the brig and retreating by boat to Upernavik, Danish Greenland, was now forced upon Kane's mind. The co-operation of the natives greatly facilitated, if it did not alone render possible, the transportation of their provisions, boats, and stores to Cape Alexander. Kane says the Eskimo "brought daily supplies of birds, assisted in carrying boat stores, and invariably exhibited the kindest feelings and strictest honesty."

Bidding farewell to the natives at Cape Alexander on June 15, 1855, Cape York was passed, the land ice of Melville Bay followed, and the northern coast of Danish Greenland reached in forty-seven days. In the meantime a relief squadron under command of Lieutenant Hartstene, United States Navy, had visited Smith Sound, where the natives informed him of Kane's journey southward. Taken on board the returning flag-ship at Disco, Kane and his men reached New York, October 11, 1855.

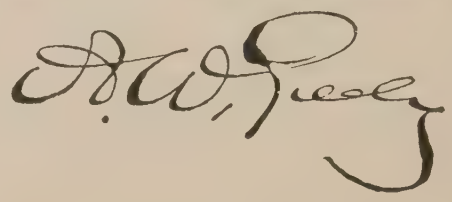
Kane had hardly reached home when it became evident that his undermined constitution could not longer withstand the inroads of a disease which for twenty years had afflicted him. Change of climate was tried without avail, and he died at Havana, Cuba, February 16, 1857, at the early age of thirty-seven.

Between his first and second voyages Kane had become deeply interested in Margaretta Fox, one of the well-known spiritualists, who later published their correspondence under the title of "The Love Life of Dr. Kane." Their relations, it is believed, resulted in a secret marriage shortly before Kane's death.

The rare literary skill shown in the account of Kane's expedition has charmed millions of readers with its graphic account of the labors, hardships, and privations of Kane and his men. It should not, however, be considered that this expedition merits attention alone from its tales of suffering and bravery, for none other of that generation contributed so materially to a correct knowledge of the Arctic regions. In ethnology it gave the first full account of the Etah Eskimo, the northernmost inhabitants of the world; in natural history its data as to the flora and fauna of the isolated and ice-surrounded extremity of western Green-

land were original, and have been to this day but scantily supplemented; in physical sciences, the magnetic, tidal, and climatic observations remained for twenty years the most important series pertaining to the Arctic regions. Kane's voyage not only extended geographically Inglefield's discoveries a hundred miles to the northward, but it also opened up a practical and safe route for Arctic exploration, which has been more fruitful of successful results than any other.

Kane was a man of generous impulses, enthusiastic ideals, and kindly heart. His chivalric nature, indomitable will, and great courage often impelled him to hazardous enterprises; but he stands out in this modern age as an unselfish character, willing to brave hardships and risk his own life on a vague possibility of rescuing Franklin and his companions.



FERDINAND DE LESSEPS*

By Clarence Cook

(1805–1894)

If, as Dante sings: "There is no greater grief than in a time of misery to remember happier days," there are few persons in our time who can testify more feelingly to the truth of the poet's words than Ferdinand de Lesseps. For many years he was a bright-shining, sympathetic figure among those who lead in the van of our material progress; and the accomplishment, by his initiative and energy, of the long dream of the Suez Canal, made him the hero, not of his own nation alone, but of all the civilized world; honors were heaped upon him, and acclamations greeted him on every side. His name became a household word.

A few years later, and all is changed. At the advanced age of eighty-eight, Ferdinand de Lesseps is in deep disgrace. Charged with the chief responsibility for the ruin brought about by the failure of another of his great enterprises—the Panama Canal—he has been condemned by the tribunal to pay a huge fine, and

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has only been saved from the shame of actual imprisonment by the knowledge of his judges that, in his feeble state of health, imprisonment would speedily be fatal. As at the ceremonies on the occasion of the opening of the Suez Canal, De Lesseps was compared to Columbus, the opener of a way to the new world, so we may see the close of the great discoverer's career reflected in the tragic ending of the splendid fortunes of De Lesseps.

Ferdinand de Lesseps was the son of a French gentleman who, fifty years since, was in the Consular service of France in Egypt. He was born at Versailles in 1805, and after receiving the usual education given to youth of his class, he was early inducted into the mysteries of diplomatic life, where his father's services and influence naturally opened a way for him. In 1833, when twenty-eight, he was made consul at Cairo, and remained at that post for over ten years, during which time he laid the foundations for that knowledge of all matters connected with Egyptian affairs which was to prove so valuable to him and to the world a few years later.

In 1842, De Lesseps was transferred from Cairo to Spain, and was made consul at Barcelona. Spain was at this time much disturbed by factional quarrels and jealousies, partly due to disputed claims to the succession to the throne, and partly to the angry rivalries of political leaders, each eager to save the country by his particular nostrum. In the dynastic struggle, Queen Christina, made regent after the death of her husband, Ferdinand VII., had been exiled to France, and General Espartero, who at first had stood for her cause, now ruled as regent in her place. In 1843, the year after the arrival of De Lesseps, the city of Barcelona, which in common with many other places had refused to support Espartero, openly revolted, and was besieged and bombarded by his forces; and in the course of the siege, which brought great misery upon the inhabitants, De Lesseps did so many humane and generous acts at great personal risk, that he was rewarded by honors from the governments of several nations whose subjects had been protected by him in his official capacity.

It was natural that after this proof of his abilities, De Lesseps should be advanced to a still higher position, and in the spring of 1848 he was made minister to Madrid. This place he held, however, only until February, 1849, for in May of that year he was sent to Rome to patch up a peace between the popular party and the French army of occupation. This proved an unfortunate venture. De Lesseps was recalled to France in disgrace, in June of the same year, for having shown too great a sympathy for the party of Mazzini, which aimed to establish a Roman Republic.

It may be conjectured that the disappointment of De Lesseps at this abrupt ending of his diplomatic career was not very great. He had not been drawn to the profession by natural inclination, but had inherited it, so to speak, from his father, as another man might inherit the profession of law or medicine, or as the son of a mechanic might inherit his father's trade. His ambition and tastes both led him in a different direction; he would play a more active, a more striking part in the affairs of his time.

During the period of his residence in Egypt, as consul for France, he must often have heard the project of a canal across the Isthmus of Suez discussed, since the course of events was every year making the necessity of the undertaking more evident. As is well known, the idea of such a canal was not a new one: Herodotus speaks of a canal designed and partly excavated by Pharaoh Necho in the seventh century before Christ, to connect the city of Bubastis, in the Delta of the Nile, with the Red Sea. As planned, the canal was to be ten feet deep with a width sufficient for two triremes to pass abreast, and it was expected that the voyage would be accomplished in four days. After the lives of 126,000 Egyptian workmen had been sacrificed to the hardships of the undertaking, Herodotus says that Necho, alarmed at the difficulties and expense, consulted the Oracle as to what was best for him to do, and received the answer: "Thou art working for barbarians." The Egyptians, like the Greeks, considered all foreigners as barbarians, and the answer simply reflected the sentiment of the people, or of their leaders, that this vast expenditure of labor, time, and money would prove to be, after all, as much for the benefit of foreigners as for themselves. The Oracle gave a voice to national and political prejudices, such as even in our own time are continually evoked to block the wheels of great enterprises. Necho, we are told, heeded the warning of the Oracle and abandoned the enterprise, but about one hundred years later, in the time of Darius Hystaspes, work on the canal was resumed and the undertaking was completed. From time to time we find mention made of the canal by later authors, but about the end of the eighth century of our era it was finally abandoned and left to be blocked up by the sand.

The project was revived by Napoleon I. at the time of his Egyptian expedition; but, on the report of his engineer, M. Lepère, now known to be mistaken, that the Red Sea level was thirty feet higher than that of the Mediterranean, nothing further was done; nor was it until so late as 1847 that it was again taken up and an attempt made to interest the maritime powers of Europe in the scheme; but nothing serious was accomplished.

In truth, the idea of a canal uniting the two seas, had up to this time been largely sentimental, if we may so express it; rather connected with vast schemes of conquest than founded on the vital needs of commercial development and the material good of the people. The commerce of the Mediterranean countries with India and the remoter East had not in those earlier times reached a point where such a costly undertaking as the Suez Canal could prove remunerative; what trade there was could be sufficiently and more cheaply accommodated by the Overland machinery of caravans, while France, Spain, and England still found the route by the Cape to answer all their purposes. In fact it was more than doubtful whether sailing-vessels, by means of which trade was then chiefly carried on, or even steamers of the build then employed, could use the canal to profit. It was believed that the advantages promised by a shorter route would be counterbalanced by the delays and dangers reckoned inseparable from the navigation of so narrow a water-way.

These objections, really of a serious nature, made it difficult to win over the

business world to a practical interest in the scheme. De Lesseps had been from the start the chief mover in the enterprise, to which he had given many years of his time, and he was not a man to be discouraged by repeated failures to bring others to his own way of thinking. His long experience, besides, in the ways of diplomacy had prepared him for delays and obstructions; but the time came, at last, when his enthusiasm, his confidence in himself, and his skill in dealing with men were to bring about the realization of his hopes.

Five years, from 1849 to 1854, had been occupied by De Lesseps in negotiations with governments and bankers, but it was not until 1854 that the event occurred which insured the success of his great undertaking. In that year, Mahomet Saïd Pasha became Viceroy of Egypt, and no sooner was he seated than he sent for De Lesseps to consult with him as to the possibility of carrying out the project of the canal. In November of the same year, a commission was signed at Cairo by the Viceroy charging De Lesseps with the formation of a company to be named the United Suez Canal Company, with a capital of two hundred million francs, afterward raised to three hundred million. From this time the affairs of the canal went on with comparative smoothness, and by 1858 the money necessary for the work had been pledged; one-half the loan was placed on the continent, chiefly in Paris, the other half was taken by the Viceroy.

Actual work on the canal was begun in 1858 and such rapid progress was made that it was completed in the autumn of 1869, and opened to the commerce of the world with magnificent ceremonies, lasting for several days. Religious ceremonies, in which priests of the Catholic Church, the Greek Church, and the Moslem faith united, were followed by a naval parade representing the European powers and the United States, and the whole concluded with a brilliant series of fêtes and entertainments at Cairo. As the originator of the canal, De Lesseps, was a Frenchman, and as France had been the chief promoter of the enterprise, the place of honor at these ceremonies was naturally given to the Empress Eugènie, who went to Cairo as the representative of the French nation; while to De Lesseps, as naturally, was given the next place, a position which he filled with equal dignity and modesty, winning "golden opinions from all sorts of people."

The Suez Canal, though a vast and important undertaking, presented almost no engineering difficulties to be overcome. At Port Saïd, the Mediterranean entrance to the canal, two great piers, to serve as breakwaters, were built of artificial stone, projecting into the sea; the western, a distance of 6,940 feet, the eastern 6,020 feet, and enclosing an area of 450 acres; thus providing a safe and commodious harbor. At Suez, the Red Sea terminus of the canal, a less formidable defense was needed; but the necessary docks and buildings called for a considerable outlay.

From Port Saïd to Suez the land is almost a dead level; the few sand-dunes that break the monotonous uniformity of the isthmus nowhere reach a greater height than fifty or sixty feet. Along the middle line of the isthmus there was a series of depressions; some shallow, and others, the bottoms of which were

lower than the level of the sea. Although these depressions were at all times dry, yet they were called "lakes," and as such figure on the maps, where we read the names "Lake Timsah," "The Bitter Lakes" and others. They were found to be thickly incrusted with salt on the bottom and sides, indicating that at one time they had been filled with sea-water; it is indeed most probable that the whole isthmus was at a very remote period entirely submerged. In the construction of the canal these depressions were made to play a very important part. The line of the canal was carried directly through them; the shallower were brought to a sufficient depth by dredging; the deeper were simply filled with water and required nothing more for safe navigation than an indication of the channel by buoys. Thus, in the whole length of the canal, reckoned at 88 geographical miles, there are 66 miles of actual digging; 14 miles of dredging through the lakes; and 8 miles, where neither digging nor dredging was required.

Water began to flow from the Mediterranean into the canal in February, 1869, and from the Red Sea in July of the same year; and by October, the lakes, and the canal in its whole length, were filled with water navigable by vessels of the highest class. The water-way thus obtained has a width at the surface varying from 197 feet at deep cuttings, to 225 feet at lower ground. The sides slope to a width at the bottom of 72 feet, and an average depth of 26 feet is secured along the whole course. As the water is at one level from sea to sea, the canal is without obstruction of any kind. No locks, dams, or water-gates are required, and vessels enter the canal from either end and pursue their journey without interruption or detention.

So great, however, was the eagerness of trade to take advantage of the new route, that the volume of traffic increased within a very short time after the opening of the canal to such an extent as to cause serious delays in the transit, and a number of schemes were brought forward for building other canals by which the two seas might be united. In the end, all these plans were abandoned, and it was decided to widen the canal sufficiently to enable it to meet the increased demand upon its carrying capacity. It may not be without interest to note the growth of traffic in the canal by a few figures. From 486 ships which passed through in 1870, the number rose to 3,100 in 1886; while the receipts increased from $1,031,875 in 1870, to $11,541,090 in 1886. The canal, when completed, was found to have cost twenty million pounds sterling, a sum far in advance of the original estimate, but made necessary by the addition of several important items of expenditure that were not foreseen. One of these was the substitution of paid labor for the forced labor promised by the Pasha, but which was made impossible by public clamor. The Egyptian ruler discovered that he was not living in the times of the pyramid-building Pharaohs, when men were made beasts-of-burden. Another item not provided for was the necessity of supplying the 30,000 workmen employed on the canal with fresh water. For this purpose, a branch canal had to be dug, by which water could be brought from the Nile.

The enterprise thus brought to a happy ending, has already proved of great service to the world. It must be looked upon not merely as a benefit to com-

MELTON PRIOR PINXIT.

CUTTING THE CANAL AT PANAMA.

merce, but as one of the many powerful agents now at work binding the nations closer together. It is indissolubly connected with the name of De Lesseps, and had he been contented with the fortune and the reputation gained by his work in forwarding the canal, few names would have shone brighter in the list of those who have helped on man's material well-being. But in an evil hour he was persuaded to lend his support to the Panama Canal scheme, and along with the ruined fortunes and ruined reputations sunk in that abyss, the name and fortune of De Lesseps and his family have suffered irretrievable blight.

The Panama Canal was not first proposed in our day; the scheme is as old as the discovery of the isthmus. "The early navigators," says J. C. Rodrigues, "could not help noticing how near to each other were the two oceans, and how comparatively easy would be (they thought) the cutting of a canal through that narrow strip of land between them. The celebrated Portuguese navigator Antonio Galvão, as early as 1550, wrote an essay on the subject wherein he suggested four different lines, one of which was through the Lake of Nicaragua, and another by the Isthmus of Panama." England, in 1779, was the first to make an attempt to control the river and lake communications, but her forces sent under Nelson to begin the work were driven away by the terrible fever that has thus far been the best defence of the isthmus from attack. Various schemes were entertained by other nations, but, although the United States kept a jealous eye upon its own interests in the enterprise, it was not until the discovery of gold in California that it saw a vital reason for insisting upon its paramount claims, and the outbreak of the Civil War, with its threats of European intervention, made an easier communication with the rising States of the Pacific Coast seem an absolute necessity. But we moved slowly and with vacillating steps. We were divided in opinion as to the best route to take, as to the sort of canal that was desirable, as to the advisability of building any canal. When the war was over, the rapid increase of railroad communication with the Pacific Coast made public opinion still more indifferent to the enterprise. Meanwhile the French had started with great energy a scheme for a canal at Panama, and De Lesseps had been induced to lend his name to the scheme, and to take an active part in carrying it out. For this purpose he visited the United States and used his best diplomatic arts to induce our Government to unite with him in his plans. But he could do nothing on this side the water and returned to France to fight the battle alone. There the interest in the scheme, artificially excited by speculators and still further aided by the efforts of De Lesseps and his friends, increased to such an extent as to swamp all considerations of prudence. The name of De Lesseps, consecrated by the brilliant success of Suez, proved to be a powerful charm. Thousands and tens of thousands of people in the cities and in the country put the hard-earned savings of years into the venture; senators, deputies, men of high social rank in public life, shamelessly sold their votes and their voices to secure the moral aid and the money of the state to aid their gambling enterprise, and the newspaper press of Paris, at all times venal, betrayed for bribes the trust that was reposed in it.

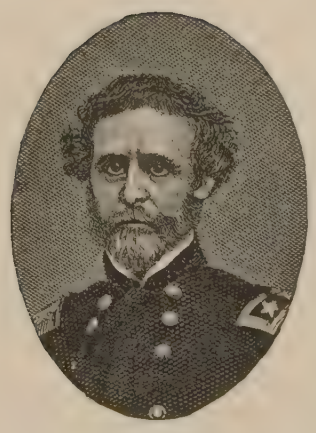
Such a state of things could not last forever. The end, long prophesied, came at last; the exposure was complete, and the whole stupendous scheme of fraud was unmasked. Something might have been saved from the wreck had the canal itself been a real thing so far as it had gone, a practical enterprise, sure in time to pay its investors and serve the public. But it was found that everything connected with the construction of the canal had been grossly misrepresented; the estimates of expense; the reports of the engineering difficulties to be overcome; the dangers from the climate; the bills of mortality; everything, in short, was enveloped in a cloud of lies. So great was the shock to public confidence that followed this exposure, that for a time the Republic itself seemed in danger of overthrow. The eyes of the world were fixed upon De Lesseps and his son Charles as the chief authors of the mischief, and when the crisis was passed, and the smoke of the upheaval had passed away, the Panama Canal was seen to be a ruined enterprise, and buried deep underneath it was the once-honored name of Ferdinand De Lesseps.

Clarence Cook

GENERAL JOHN C. FRÉMONT*

By Jane Marsh Parker

(1813–1890)



In these days of rapid transit between New York and San Francisco, of luxurious travel across desert and mountain, the story of John Charles Frémont, the Pathfinder of the great West, is of peculiar interest, a striking illustration that the history of the world is in the biography of its leaders, in the pathfinders of the unexplored.

The stormy tide of the French Revolution sent the father of John Charles Frémont to the New World about the time, presumably, when Napoleon Bonaparte was in the height of power. This M. Frémont came of a good family living near Lyons, France. A British man-of-war made prize of the ship in which he sailed for San Domingo, and he was carried prisoner to one of the British West India islands, his captivity lasting several years. Upon gaining his liberty he stopped at Norfolk, Va., to refill an empty purse as a teacher of French, and there met Anne Beverly Whiting, a leading belle of an old Virginia family, who became his wife. One of the illustrious connections of the Whitings was that with the family

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of George Washington. M. Frémont's marked fondness for travel and adventure was shared by his wife. They took long journeys through the wild southern country, stopping at Indian villages, often sleeping by camp-fires. On one of these expeditions, when making a halt at Savannah, Ga., John Charles, their first child, was born, January 21, 1813. M. Frémont died a few years after.

The boyhood of John Charles was spent in Charleston. It is well to remember, in a study of his life, his French blood and early southern environment. His first choice of a profession was the law. At the age of fourteen he became a student in the office of John W. Mitchell, who placed him under a private tutor, Dr. Roberton, who understood the lad thoroughly and developed his character in the right direction. Dr. Roberton seems to have first discovered what was made plain in Frémont's after-life—the makings of a poet, and the foresight of a prophet. Translating the story of the battle of Marathon in the Greek class, young Frémont catches the spirit with which it was told by Herodotus, and writes verses in protest of tyranny which are published in one of the Charleston papers. "In one year," wrote his tutor, "he had read four books of Cæsar; Cornelius Nepos; Sallust; six books of Virgil; nearly all of Horace, and two books of Livy. In Greek—all of Græca Minora, about half of the first volume of Græca Majora, and four books of the Iliad." At fifteen he enters the junior class of Charleston College. At sixteen he is confirmed in the Episcopal Church, entertaining at that time thoughts of entering the ministry. His steady progress is interrupted by his first love affair; his absorbing passion so gets the better of his common sense, that he neglects his books and classes and is expelled from college. We next find him teaching higher mathematics, acting as private tutor, and devoting his evenings to the charge of the *Apprentice's Library*, a school in Charleston. At twenty years of age he received the appointment of teacher of mathematics, and his long connection with the United States Army had its beginning; his post the sloop of war Natchez. He was to go on a cruise of two years and more along the coast of South America. Here was a chance for him to unfit himself for further advancement, but he improved his time upon the cruise to the utmost, and his diligent scholarship won for him the double degree of bachelor and master of arts from the college from which he had been expelled. His application for a mathematical professorship in the Navy resulted in his passing the severe examination, and in an appointment to the frigate Independence. He declined the office, however, having decided to become an engineer, to join Captain Williams's survey of the mountain passes between South Carolina and Tennessee. There was talk of a railroad between Charleston and Cincinnati in those days.

That was Frémont's first experience in exploring expeditions. The corps lived chiefly in camp. The survey was in wild mountainous regions of the unexplored South, among Indians sullen against the Government. Frémont liked this kind of a life. He enlisted under Captain Williams the second time in 1837, as assistant engineer, going with him upon a military reconnoissance of the Cherokee country in Georgia, North Carolina, and Tennessee. A war cloud was

rising; the peril of the expedition was its charm to Frémont. "St. Louis was then on the border of an immense and almost unexplored Indian country. The caravans of merchandise going through it to Santa Fé, ran all the risks you can read of among Bedouins in the desert; the hunters and trappers, as well as the merchants, started off into the unknown with only one certainty, that danger was there; and when they came back—if they ever did—it was as from underworld." *

About this time a distinguished French geographer, M. Nicollet, was sent to this country by France to explore the sources of the Mississippi, "in the interests of geography." The United States were also interested in the geography of the almost unknown Northwest. M. Nicollet was appointed to make explorations for the United States, and Frémont was honored with the position of principal assistant. It was high time that something should be done in the interests of a geography made up largely from travellers' tales. That there was a great river, the Buena Ventura, running from the base of the Rocky Mountains to the Bay of San Francisco, nobody doubted, for there it was upon the map. The exploration of M. Nicollet, assisted by Frémont, awakened great interest. They were absent two years; their field, the territory between the Missouri and the upper rivers, as far north as the British line. Their report was awaited with impatience. Frémont came home to find that he had been appointed second lieutenant of the United States Topographical Engineers. As a scientific explorer his fame was established. The year following his return he spent in Washington with M. Nicollet, preparing his report for publication. Among those most deeply interested was Senator Benton, of Missouri, "Tom Benton," as he was popularly called, and "Old Bullion." Benton's hobby was the opening of a road for immigrants to the Pacific coast, as a necessary step to the acquisition of the territory held by Mexico—the California of to-day. Senator Benton's interest in the report of the young engineer, then about twenty-seven years of age, was surpassed by the young engineer's interest in the senator's daughter, Jessie, then only fifteen, an interest which ended in a betrothal contrary to the wishes of older heads, owing to Miss Benton's youth and young Frémont's connection with the army. The young engineer received an unexpected and unwelcome order, sending him to the wild frontier of Iowa at once, where the Sacs and Foxes, it was thought by Senator Benton (who had a hand in his exile), might be made to help postpone the marriage, at least. But banishment and red-skins were of no avail in breaking the engagement.

Frémont performed his duty to the letter, returned to Washington, and married Miss Benton, October 19, 1841—a "runaway match" which happily brought life-long happiness to both parties—Mrs. Frémont becoming the connecting link, to use her own words, between her father's "fixed idea of the importance of the speedy acquisition of the Pacific coast, and its actualization through the man best fitted to be the pioneer of the undertaking."

Less than a year after his marriage, in the summer of 1842, Frémont was sent

* Souvenirs of my Time. Jessie Benton Frémont.

by the War Department on the *first* of the *five* expeditions which gave him the name of Pathfinder.

The Mexican War was ripening fast. England had at that time financial claims upon Mexico, and Mexico was bankrupt.

How to get California was a serious question, reminding United States diplomatists of the old Quaker's advice to his son—"Get money, Joseph, get money. Get it honestly if you can—*but get it.*" Acquisition of California by settlement was vigorously encouraged. The best routes across the mountains must be discovered and surveyed. Partial explorations of routes to Oregon and California had been made. Emigrants had crossed the Rockies and were settled in the Sacramento Valley. But the geography of the Great Basin was inaccessible to science; the best and safest routes were only guessed at. Emigration was checked by rumors of perils, alas! too true. Frémont's order to go to the frontier beyond the Mississippi, was changed at his request for something more definite—the exploration of *the South Pass* of the Rocky Mountains.

August 8, 1842, he reached the South Pass, and then the unexplored was before him—untrodden ground. Kit Carson was his guide; twenty-eight men made up his party—Canadian voyageurs, picked men, well mounted and armed—only eight of the expedition driving wagons. Randolph Benton, a lad of twelve, Frémont's brother-in-law, was one of the number. The great event of this expedition, so full of thrilling adventure, was the first ascent of that highest peak of the Wind River Mountains, now called Frémont's Peak, 13,570 feet in height. "We mounted the barometer in the snow of the summit," Frémont wrote, "and fixing a ramrod in the crevice, unfurled the national flag where never flag waved before. . . . While we were sitting on the rock a solitary humble-bee came winging its flight from the eastern valley, and lit on the knee of one of the men." They run a cañon in the Platte, singing a Canadian boat-song for all the peril. . . . Their boat is whirled over, food, ammunition, and valuable records lost. Climbing up and out of the cañon, they admire the scenery in spite of their forlornity. . . . cacti and bare feet, hunger and thirst. . . . but astronomical and barometrical observations and drawings are made, botanical specimens collected, and a mass of information, making the report of this expedition * what has been called the most enduring monument of Frémont's fame. The report was hailed in England as well as the United States, and was followed by an increase of the wagon-trains across the mountains via the South Pass.

The first expedition was absent some six months. Frémont's Peak marks the western point of that journey.

The next order from the Government sent Frémont, in the spring of 1843, to begin exploring where he had left off in 1842; to connect his survey with that of Commodore Wilkes on the Pacific coast. Kit Carson was again his guide; many of the previous expedition enlisted, 32 men in all. Across the forks of the Kansas the route lay west of Fort Laramie, through the Medicine Butte Pass and the South Pass to the northern end of Great Salt Lake. Frémont's report of

* Frémont's Oregon and California. (1849.)

this region led the Mormons to settle at Salt Lake afterward, believing they would be in Mexican territory. The record of this expedition, like the preceding one, is a story of fearful suffering and heroic endurance. It is given in detail in Frémont's "Memoirs," and Benton's "Thirty Years in the Senate." Deep snows on the mountains, no sign of the Buena Ventura River, Indians refusing to guide such a foolhardy venture; "skeleton men leading skeleton horses;" the descent into the Sacramento Valley at last, and the arrival at Fort Vancouver, November 1843, gives but a glimpse of the heroism of this second expedition. The suffering endured in reaching the coast was as nothing to that of the return through the great valley between the Rockies and the Sierra Nevada, looking for the river they were the first to prove did not exist at all. From San Francisco back to Salt Lake, three thousand five hundred miles in eight months, not once out of the sight of snow. Geography had gained an important fact—the Colorado was the only river flowing from the Rocky Mountains on that part of the continent. For eight months not a word had been heard from the party, at the East, and then Frémont came home "thin as a shadow," and Mrs. Frémont could tell him that she might have prevented his going at all had she chosen, for an order from Washington, countermanding the expedition, had been received by her addressed to her husband, soon after his departure from St. Louis. The expedition was not too far away when the despatch came for her to get it to him, but she decided to withhold it. Because he had taken a mountain howitzer in his outfit he was ordered to stay at home. What a scientific expedition could want of a howitzer was not plain to the authorities, who seemed to think that hostile Indians knew at sight the difference between a military and a scientific party and would respect it. Mrs. Frémont tells the story in *The Century* for March, 1891, how she not only did not send on the despatch, but a messenger instead, bidding Frémont "Go on at once without asking why," so fearful was she a duplicate order might defeat his going at all.

General Scott was Commander in Chief of our Army in 1845. At his instance Lieutenant Frémont was made captain in the United States Army, and in the fall of that year was sent by the Government on another expedition . . . this time to find the best road to the Pacific coast. Trouble with Mexico was growing fast. Our southwestern territory needed looking after; the northwestern of Mexico as well. Frémont was to follow the Arkansas River to its source in the Rocky Mountains, explore the Great Basin, the Cascades, and the Sierra Nevada, and define a route in a southern latitude for emigrants. Kit Carson was among the sixty men of this party, and several veterans of the two former expeditions. They struck out for the Sierra by the way of the Humboldt River. The war with Mexico broke out soon after their departure.

It was another story of fearful hardship—the Sacramento Valley was reached at last, and Frémont hastened to Monterey to get permission from the Mexican authorities to make a scientific exploration of the region. His request was granted, and permission given to replenish his exhausted supplies. Why the Government revoked this permission almost as soon as granted, ordering him and his

men to quit the country at once or they would be sent as prisoners to Mexico, is a source of much controversy between historians of that day and this. Frémont could not retreat into the desert with his scanty outfit. A rude fort was built at once on Hawk's Peak, some thirty miles from Monterey, and the Stars and Stripes flung out, Frémont and his men ready to take the consequences of such defiance. When they withdrew, as they did in a few days, overtures from the Mexicans followed them, even a proposition from the Spanish officer that Frémont should join with him and declare the country independent of Mexico. Frémont moved northward. He had reached Tlamath Lake when overtaken by a special messenger from Washington, the bearer of a despatch which had been memorized by the messenger to prevent its falling into the hands of the Mexicans, and which Frémont interpreted to mean that it was the wish of the Cabinet that he should aid in taking and holding California, in the event of any occurrence which he thought justification for so doing. The English must not strengthen their foothold on the coast. Someone must look after the interest of the United States; he was on the ground. If a crisis came he must act without written authority, promptly and discreetly—"Get it honestly if you can—*but get it.*" He returned at once to California, and found it in a revolutionary state. The American settlers had hoisted what was called the Bear Flag, and were eager to fight for the overthrow of the Mexican authority in California.

It is a long story, that of the conquest of California. Frémont's right to be called the Conqueror or the Emancipator is bitterly disputed by some, who claim that he attacked the Californians by irregular warfare, and so thwarted the conciliatory designs of the Government. Be that as it may, by July 5, 1846, the Bear Flag insurgents under Frémont had declared their independence of Mexico, and Frémont had been appointed Governor of California, and had hauled down the Bear Flag and raised the Stars and Stripes. A constitution had been drawn up and the territory declared to be in the possession of the United States. January, 1847, "the enemy" capitulated to Frémont. "The celerity and boldness of his movements in the conduct of the affair were only surpassed," says a contemporary, "by the moderation and clemency of his policy." "The decisive point," wrote George Bancroft, "in the establishment of the Union on a firm basis had been gained."

The seizure of California in 1846 has been called, from another outlook, "one of the least creditable affairs in the highly discreditable Mexican War," and Frémont nothing more than a filibuster seeking private ends. California had been made ours, nevertheless, and Frémont had secured the prize.

In the meantime the Mexican War had begun, and Commodore Stockton, of the U. S. Navy, was hastening to California *by sea* under orders to subjugate the country. General Kearney was marching westward *by land* under like orders. Of course there was a dispute about precedence when both were upon the ground, each asserting his right to command the other, both issuing orders and insisting upon the right to precedence. The difficulty of serving under two masters was experienced by Frémont. General Vallejo testified that he received in

one day, letters from Commodore Stockton, General Kearney, and Colonel Frémont, each signing himself "Commander-in-Chief." Frémont believed he had sufficient reason for choosing to serve under Stockton, which he did. Upon Stockton's return to his squadron and Kearney's assignment to full command, Kearney brought charges against Frémont for mutiny and fraud, defeating his re-appointment as governor of the State besides. Frémont was ordered home, and it was said "that, like Columbus, he returned from the discovery and conquest of a new world, a prisoner and in disgrace." He went back to Washington under arrest. Great honors awaited him, nevertheless, his troubles only adding to his laurels. The citizens of Charleston gave him a sword, the ladies the gold-mounted belt of the same. He demanded immediate trial, which was granted, the court-martial lasting three months, his defence filling three sessions. He was pronounced guilty of mutiny, disobedience of the lawful command of a superior officer, and conduct to the prejudice of good order and military discipline—a conviction based, some said, upon technical grounds. President Polk remitted the penalty—dismissal from the army—but Frémont resigned at once, the President reluctantly accepting his resignation.

Frémont was then thirty-four years old. As the leader of three great exploring expeditions he had become not only famous, but a popular hero. He had done much for science. He had made the most accurate map of the region between the one hundred and fourth meridian and the Pacific. He had added a large collection of botanical, geological, and other specimens to the national museums. He was eager to resume explorations of routes to the Pacific, having decided to settle his family in California—upon the Mariposa estate, in the Sacramento Valley, which he had bought in 1847, before the discovery of gold, seventy square miles, for $3,000, "the only Mexican grant that covered any part of the gold regions."

Frémont's claims against the Government for expenses incurred in the conquest and defence of California, amounted to some $700,000, which was paid to him. Among those advocating the payment were Senators Benton, and Dix of New York. Twenty thousand copies of Frémont's map of Oregon and California were ordered by the Senate.

It was by no means in the rôle of a defeated man that he started out upon his fourth expedition, in the fall of 1848—when the gold fever was at its height—a venture of his own and Colonel Benton's; its object, a route to the Pacific by way of the Rio Grande. Thirty-two men were enlisted, picked men as before. It was a superb and costly outfit, no less than one hundred and twenty mules. Lacking Kit Carson for a guide, they were lost in crossing the Rocky Mountains, every mule and horse and one-third of the men perishing from cold or starvation. At last, as he wrote home, "the mules, huddled together in the deep snow, froze stiff as they stood and fell over like blocks." The freezing men recrossed the summit in retreat, some of them driven to cannibalism. Wading through the snow to the waist, the remnant reached the home of Kit Carson at Taos, N. M., where Frémont reorganized the expedition, reaching the Sacramento in the spring of 1849.

Litigation concerning his title to the Mariposa estate did not prevent Frémont from developing its mineral and agricultural resources. He engaged some twenty-eight Spaniards to work its gold mines upon shares. His prospects of boundless wealth were most flattering. The Pathfinder was now a millionaire, and in 1855 his title to Mariposa was established by the Supreme Court. Following his appointment in 1849 to run the boundary line between the United States and Mexico, the political party of the Territory seeking its admission as a free State, elected him to the United States Senate. Many honors were bestowed upon him at this time—the medal of the Royal Geographical Society of London, the Founders medal from the King of Prussia, an honorary membership of the Geographical Society of Berlin, etc.

In the California State election of 1851, Frémont stood with the Anti-Slavery party, opposed to the extension of slavery in free territories. He was defeated, and went to Europe with his family in 1852, where he was fêted by royalty generally. Mrs. Frémont, in her "Souvenirs of My Time," has given charming glimpses of this part of their life. Hearing that Congress had made appropriation for further surveys of great Western routes, Frémont hastened home in 1853, to explore by a fifth expedition, what he believed to be the most central and practicable route. This was his second private venture. He would follow the path he had lost when the guide led him astray on his fourth expedition. He would cross the Rockies at Cochetopa Pass, and that in winter.

He made the passage, but it was at the cost of frightful suffering; fifty days on frozen horse-flesh, days without even that; forty-eight hours without a morsel of food; the entire party barefooted in the snow; Frémont, in the hour of extreme peril on the storm-swept mountain-side, making his men take oath that, come what might, nothing should tempt them to cannibalism. Benton tells us how Frémont went straight to the spot where the guide had gone astray in 1848, and found safe and easy passes all the way to California, upon the straight line of 38° and 39°. Great railroads of to-day follow the line it took those starving and half-frozen men fifty days to pass in that winter of 1854. For three months nothing was heard from the party. Frémont's arrival in San Francisco was an ovation. "Europe lies between Asia and America," we read in his report; "build the road, and America lies between Europe and Asia. . . . The iron track to San Francisco will be the thoroughfare of the world."

The issues at stake in the presidential campaign of 1856 make that campaign the most important of any in the history of our country. "The question now to be decided," said Seward, "is whether a slave-holding class shall govern America or not." The nomination of John Charles Frémont as the candidate of the Republican party was hailed with enthusiasm at the North. The Civil War was impending. The lines between the defenders of slavery and its opponents were sharply defined. Frémont was the first nominee of the Republican party. The romance and adventure of his career, his upright life, the hero-worship of the Pacific coast, the antagonism of the South, gave the canvass a vitalizing force that his defeat by James Buchanan did not lessen, but simply

changed into a new phase of strength. Frémont's popular vote was 1,341,000 against 1,838,000 for Buchanan and 874,000 for Fillmore (Know-Nothing). Frémont received 114 electoral votes, and Buchanan 174.

When the Civil War broke out, in 1861, Frémont was in Europe. He offered his services to the Government at once, and was appointed one of the four major-generals of the regular army, and given his choice of a command at the East or the West. He chose the West. "Who holds the Mississippi will hold the country by the heart," he said. His headquarters were at St. Louis, where secession was rampant. "You must use your own judgment," wrote President Lincoln, "and do the best you can. I doubt if the States will ever come back." Frémont's policy differed from Lincoln's essentially; it lacked that patient, conciliatory spirit with the South which made it hard for many at the North to approve of the compromising policy of the Chief Executive, seeking to hold the neutral States from seceding. Frémont's hatred of the rebellion led him to deal with it just as he would have done with a mutiny on a perilous expedition. He proclaimed martial law. Rebels were to pay some penalty for rebellion—rebel newspapers were silenced—and what was the notable feature of Frémont's administration—the slaves of those in arms against the Government were declared emancipated; his emancipation proclamation antedating Lincoln's of September 22, 1862, by a little more than a year. But Frémont's policy was censured rather than approved by the country at large. Petty intrigues of officers in close relation with the Cabinet did much to defeat his plans. His fleet of gunboats was called a useless extravagance—his staff "the California Gang." His emancipation proclamation was pronounced premature and unwise by Lincoln, and revoked. Frémont again was the cause of an intense public partisanship "Frémont's career at the West was brief," says "Patton's Concise History of the United States," "only one hundred days; but, being a man of military instincts and training, he showed in that time a sagacity which was not allowed fair practical development. In that brief time he was the first to suggest and inaugurate the following practices, then widely decried, but without which the war would not have been successfully concluded: the free use of cavalry (strongly opposed by General Scott and others); exchange of prisoners with the enemy; fortification of large cities, to allow armies to take the field; building of river gunboats for the interior operations at the West; and the emancipation of the slaves. In short, he contributed more than is generally credited to him." "To get rid of Frémont," says Major-General Sigel, "the good prospects and honor of the army were sacrificed to the jealousy of successful rivals." Frémont was relieved of his command in 1861, and shortly after appointed commander of the Mountain District of Virginia, Kentucky, and Tennessee, where he did most honorable service, Stonewall Jackson retreating before him after eight days' sharp skirmishing, ending in the battle of Cross Keys.

Upon the appointment of General Pope as Commander of the Army of Virginia, making him Frémont's superior officer, Frémont asked to be relieved; his request was granted.

A minority of the Republican party, the radical wing, opposed to the renomination of Lincoln in 1864, nominated Frémont as their candidate. He accepted, but finally withdrew. "Not to aid in the triumph of Lincoln," he said, "but to do my part toward preventing the election of the Democratic candidate." One of the Republican candidates would have to retire to save the party. Here is a subject for debating clubs: Was the interest of the country best served by Frémont's withdrawal from the canvass of 1864?

After 1864 Frémont took little part in public life. He became absorbed in his great trans-continental railroad scheme of a line from Norfolk to San Diego and San Francisco, in which he ultimately lost his large fortune. French agents, in disposing of his bonds in France, made false representations. He was prosecuted by the French Government in 1873, and sentenced by default to fine and imprisonment, although no judgment was given on the merits of the case.

The sale of his Mariposa grant brought him several millions, which he invested in railroads soon after the war, buying the properties that now constitute a large part of the Texas Pacific and other roads belonging to the Atchison and Santa Fé. In the great consolidation entailed by the foreign litigation, his confidence was abused, and he met with heavy and irreparable loss.

From 1878 to 1881 he was Governor of Arizona. His "Memoirs" appeared in 1886. The closing years of his life were spent in comparative retirement.

Not long before his sudden death in New York City July 14, 1890, at the age of seventy-seven years, he had been placed on the retired list of the United States Army with the rank of Major-General. When he passed away the Pathfinder of Africa was filling the public ear—the wedding of Stanley in Westminster Abbey was the theme of the hour.

He was buried in Kensico Cemetery, Piermont-on-the-Hudson, about thirty miles from New York City, near the country home of his prosperous days. His widow, Jessie Benton Frémont, is at this writing (1893), a resident of Los Angeles, Cal. Three children survive their father, an unmarried daughter, Elizabeth McDowell Benton, Lieutenant Frank Preston Frémont, U. S. A; and Lieutenant John Charles Frémont, U. S. N. After his death Mrs. Frémont demanded compensation for, or restitution of the property appropriated by the United States Government for military purposes in San Francisco harbor, in 1863, and for which she has never received a dollar (1893). The settlement of this claim in her favor is anticipated by the bench generally, long as justice to her has been delayed. At present she has a pension from the Government.

Some profess to find it hard reading the character of John Charles Frémont, calling it enigmatical and baffling. Not so with those who knew him best. "His unwritten history," writes one of these, "gives the clew to his life."

That he was a man of indomitable courage none can deny; a man of lofty principle and unblemished character. An atmosphere of romance makes him the American Chevalier.

He did more than any other man to open the pathways to the Pacific coast. The bitter feeling engendered by the California conquest, and his policy in the

Civil War, is not yet extinct. Partisanship has biassed the most of his biographers. The intense feeling underlying the presidential campaign of 1856 did not conduce to a fair estimate of the man, who has suffered hardly less from the intense admiration of his friends than from jealousies of rivals and foes. "I tried to do my duty," he would say in his old age, when asked to explain knotty points about the conquest.

"All that he ever did for the Government," says one who knew him well, "was uniformly repaid with injury." That is the verdict of one side of the controversy. The sifting and weighing of a mass of conflicting evidence, preceding the final verdict of permanent history, is not yet ended in Frémont's case. That the outcome will be illumination of his fame rather than obscuration, his unswerving defenders do not doubt.

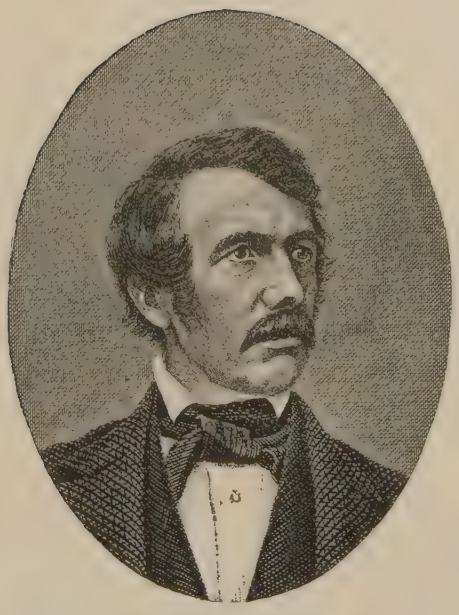
"Though the Pathfinders die, the paths remain open."

Jane Marsh Parker

DAVID LIVINGSTONE

By Professor W. G. Blaikie, LL.D.

(1813–1873)



David Livingstone, missionary and traveller, was born at Blantyre, in Lanarkshire, March 19, 1813. His parents, who were in humble life, were of devout and exemplary character; his father in particular being a great reader, especially of travels and missionary intelligence, and much interested in the enterprise of the nineteenth century. At the age of ten David became a worker in a cotton-factory at Blantyre, and continued in that laborious occupation for fourteen years. His thirst for knowledge led him to read all that he could lay his hands on; he used also to attend a night-class, after the long hours of the factory, for the study of Latin. The reading of Dick's "Philosophy of a Future State" was not only the means of a profound impression on his mind, but kindled the desire to devote his life as a missionary to the service of Christ.

Deeply impressed with the advantages of medical training to a missionary, he

resolved to qualify himself in medicine, as well as the other attainments looked for in a missionary. The London Missionary Society having accepted the offer of his services, he went to London to complete his studies. His first desire was to labor in China, but, war having broken out between that country and Great Britain, this wish could not be fulfilled. The Rev. Robert Moffat's visit at this time to England turned many hearts to Africa—Livingstone's among the rest; ultimately he was appointed to that field, and, having been ordained on November 20, 1840, he set sail for Africa, reaching Lattakoo or Kuruman, Moffat's settlement, on July 31, 1841.

For several years Livingstone labored as a missionary in the Bechuana country, at Mabotse, Chonuana, and Kolobeng, places that were chosen by him just because they were in the heart of heathenism. The conversion of Sechélé, chief of the Bakwains, and several of his tribe, was a great encouragement. Repulsed by the Boers in an effort to plant native missionaries in the Transvaal, he directed his steps northward, discovered Lake 'Ngami, and found the country there traversed by fine rivers and inhabited by a dense population. His anxiety to benefit this region led finally to his undertaking to explore the whole country westward to the Atlantic at St. Paul de Loanda, and eastward to the Indian Ocean at Quilimane.

Livingstone had married at Mabotse, Mary, eldest daughter of the Rev. R. Moffat, and now he found it necessary to send her, with their children, to England, that he might be free for this vast and perilous undertaking. To accomplish it occupied from June 8, 1852, when he left Cape Town, to May 26, 1856, when he arrived at Quilimane. This journey was accomplished with a mere handful of followers, and a mere pittance of stores, amid sicknesses and other bodily troubles, perils, and difficulties without number. But a vast amount of valuable information was gathered respecting the country and its products, its geography and natural history, the native tribes, the regions that were favorable to health, and some great natural wonders, such as the Zambesi Falls.

Livingstone, however, found that the London Missionary Society were not willing that he should be to so large an extent an explorer, and some time after returning to Britain he resigned his office as one of their missionaries.

At home Livingstone was welcomed with extraordinary enthusiasm, receiving the acknowledgments and honors of scientific societies, universities, town councils, and other public bodies in every quarter of the country. In addition to these tokens of honor, the fifteen months spent at home were signalized by three things: the writing of his book, "Missionary Travels" (1857), which was received with the liveliest interest; his visit to Cambridge, awakening the enthusiasm of many of the students, and leading to the formation afterward of the "Universities Mission;" and his appointment by Her Majesty's Government as chief of an expedition for exploring the Zambesi and its tributaries, and the regions adjacent.

On this expedition Livingstone set out on March 10, 1858. While successful in many ways, it led to not a little disappointment. Livingstone explored the

Zambesi, the Shiré, and the Rovuma; discovered Lakes Shirwa and Nyassa, and came to a decided cónclusion that Lake Nyassa and its neighborhood was the best field for both commercial and missionary operations. His disappointments arose from the grievous defects of a steamer sent out to him by Government; from the death of comrades and helpers, including his wife and Bishop Mackenzie; from the abandonment of the Universities Mission; from the opposition of the Portuguese authorities; but mainly from the distressing discovery that, encouraged by Portuguese traders, the slave-trade was extending in the district, and the slave-traders using his very discoveries to facilitate their infamous traffic. At length a despatch recalling the expedition was received, July 2, 1863. Livingstone, at his own cost, had brought out a new steamer, but she could not be put on the lake. Depressed though he was, he explored the northern banks of Lake Nyassa on foot; then in his own vessel, and under his own seamanship, crossed the Indian Ocean to Bombay; and after a brief stay there, returned to Britain, reaching London on July 23, 1864.

At home Livingstone had two objects—to expose the atrocious deeds of the Portuguese slave-traders, and to find means of establishing a settlement for missions and commerce somewhere near the head of the Rovuma, or wherever a suitable locality could be found. His second book, "The Zambesi and its Tributaries" (1865), was designed to further these objects. He was again received with every demonstration of honor and regard. A proposal was made to him, on the part of the Royal Geographical Society, to return to Africa and settle a disputed question regarding the water-shed of Central Africa and the sources of the Nile. He said he would go only as a missionary, but was willing to help to solve the geographical problem.

He set out in August, 1865, *via* Bombay and Zanzibar. On March 19, 1866, he started from the latter place, first of all trying to find a suitable settlement, then striking westward in order to solve the geographical problem. Through the ill-behavior of some of his attendants a report of his death was circulated, but an expedition, headed by Mr. E. D. Young, R. N., ascertained that the report was false. Livingstone pressed westward amid innumerable hardships, and in 1869 discovered Lakes Meoro and Bangweolo. All the while he was doing what he could for the religious enlightenment of the natives. Obliged to return for rest to Ujiji, where he found his goods squandered, he struck westward again as far as the river Lualaba, thinking it might possibly be the Nile, but far from certain that it was not, what it proved afterward to be, the Congo. Returning after severe illness once more to Ujiji, Livingstone found there, Mr. H. M. Stanley, who had been sent to look for him by the proprietor of the *New York Herald*. But no consideration would induce him to return home till he had made one more effort to solve the geographical problem.

He returned to Lake Bangweolo, but fell into wretched health. His sufferings always increasing, when he reached Chitambo's village in Ilala, he was obliged to give in. On the morning of May 1, 1873, he was found by his attendants on his knees, dead. His faithful people embalmed his body as best they

could, carried it amid the greatest perils to the shore, where it was put on board a British cruiser, and on April 18, 1874, it was buried in Westminster Abbey.

Among the remains brought home were his "Last Journals," brought down to within a few days of his death; these were published in 1874. Stanley suggested the name of Livingstone for the main stream of the Congo (hence the Baptist Mission on the Lower Congo was called the "Livingstone Inland Mission"), and Mr. H. H. Johnston proposed that part of the East African territory acquired by Britain in 1890—the lower drainage area of the Zambesi—should be called Livingstone Land.

The following letter, written by him to his children in 1853, during his first exploring tour, gives the character of the man, and shows his deep religious feeling:

"*Sekelétu's Town, Linyanti, 2d October.*—My dear Robert, Agnes, and Thomas and Oswell.—Here is another little letter for you all. I should like to see you much more than write to you, and speak with my tongue rather than with my pen, but we are far from each other—very, very far. Here are Seipone, and Meriye, and others who saw you as the first white children they ever looked at. Meriye came the other day and brought a round basket for Nannie. She made it of the leaves of the palmyra. Others put me in mind of you all by calling me Rananee, Rarobert, and there is a little Thomas in the town, and when I think of you I remember, though I am far off, Jesus, our good and gracious Jesus, is ever near both you and me, and then I pray to Him to bless you and make you good.

"He is ever near. Remember this if you feel angry or naughty. Jesus is near you, and sees you, and He is so good and kind. When He was among men, those who heard him speak said, 'Never man spake like this man,' and we now say, 'Never did man love like Him.' You see little Zouga is carried on mamma's bosom. You are taken care of by Jesus with as much care as mamma takes care of Zouga. He is always watching you and keeping you in safety. It is very bad to sin, to do any naughty things, or speak angry or naughty words before Him.

"My dear children, take Him as your Guide, your Helper, your Friend, and Saviour through life. Whatever you are troubled about, ask Him to keep you. Our God is good. We thank Him that we have such a Saviour and Friend as He is. Now you are little, but you will not always be so, hence you must learn to read, and write, and work. All clever men can both read and write, and Jesus needs clever men to do His work. Would you not like to work for Him among men? Jesus is wishing to send His gospel to all nations, and He needs clever men to do this. Would you like to serve Him? Well, you must learn now, and not get tired learning. After some time you will like learning better than playing, but you must play too in order to make your bodies strong and be able to serve Jesus.

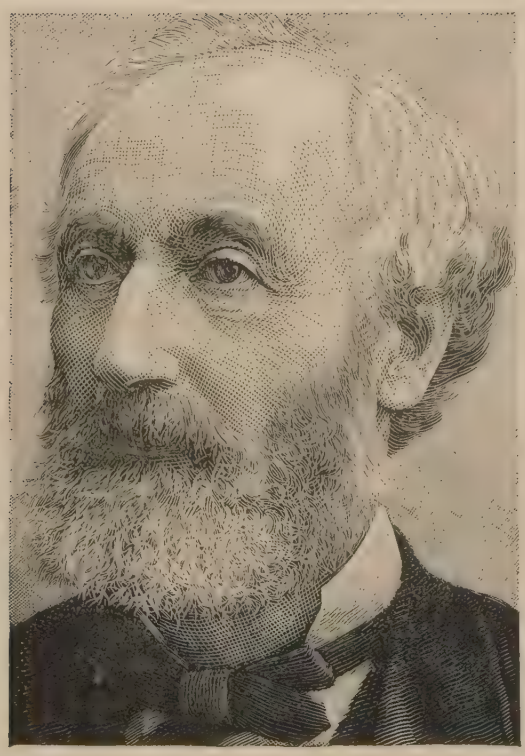
"I am glad to hear that you go to the academy. I hope you are learning fast. Don't speak Scotch. It is not so pretty as English. Is the Tau learning to read with mamma? I hope you are all kind to mamma. I saw a poor woman in a chain with many others, up at the Barotse. She had a little child, and both she and her child were very thin. See how kind Jesus was to you. No one can put you in chains unless you become bad. If, however, you learn bad ways, beginning only by saying bad words or doing little bad things, Satan will have you in chains for sin, and you will be hurried on in his bad ways till you are put into the dreadful place which God hath prepared for him and all who are like him. Pray to Jesus to deliver you from sin, give you new hearts, and make you His children. Kiss Zouga, mamma, and each other for me.

"Your ever affectionate father."

CYRUS W. FIELD*

By Murat Halstead

(1819–1892)



We, the people of the United States, have been celebrating with memorable pomp the discovery of our hemisphere by Christopher Columbus, and the elder nations and far-off islands have joined us in an immense festivity, honoring beyond all example of approbation an adventure that was a marvel, and an achievement that is immortal.

All the world remembers the voyage of Columbus, that, persevered in through trials and perils, ended in triumph—how he studied the stars and the charts, and out of the dreams of ages wove the fabric of fancy that grew to theory, and prophecy, and history, that there was land beyond the Atlantic; and there is no moment in human life supreme above, or of more fascinating interest than, that when, from the deck of his caravel he saw the light on the shore of the new world.

An incident worthy to be associated for ever with this, is that of Cyrus West Field, in his library, turning over a globe, after a conversation relative to ex-

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tending a line of telegraph to Newfoundland, to reduce the time of the transmission of news between Europe and America; when the idea flashed into his mind that the telegraph might span the Atlantic. The next day Mr. Field wrote to Lieutenant Maury, of the National Observatory at Washington, and to Professor Morse, who invented the telegraph.

The Atlantic telegraph was as truly the conception and the accomplishment of Mr. Field, as the discovery of America was the ambition and the act of Columbus; and Chief Justice Chase was not extravagant when he said the telegraph across the ocean was "the most wonderful achievement of civilization," and entitled "its author to a distinguished rank among benefactors;" or when he added: "High upon that illustrious roll will his name be placed, and there will it remain while oceans divide and telegraphs unite mankind." John Bright said: "My friend Field, the Columbus of modern times, by his cable has moored the New World alongside the Old."

Equally lofty testimony to the splendor of his fame is that of the London *Times* of August 6, 1858, saying: "Since the discovery of Columbus, nothing has been done in any degree comparable to the vast enlargement which has thus been given to the sphere of human activity."

From the first vital spark that at last glows into the bloom of life, each human being is endowed with certain qualities and capacities, aptitudes, inspirations, possibilities, limitations; and if one trace the stream of blood to its remotest sources, there is no inconsistency in ancestry, and the science of humanity may be as strict within its boundaries as that of geology, or the story of fruitful trees, or the magnetic constellations.

The four famous brothers have given the Field family an almost unique celebrity in this country. They were the sons of the Rev. David Dudley Field, of Western Massachusetts, the room-mate at Yale College of Jeremiah Evarts, father of William M. Evarts. Field and Evarts entered college together in 1798, and graduated in 1802. The American Fields are the descendants of John Field, the astronomer of Ardsley, in Yorkshire, who gained a great reputation by publishing astronomical tables, and died in 1587. Ardsley, it has not passed from the general recollection, was the name of the estate on the Hudson where for so many years Mr. Cyrus W. Field made his summer home.

The family name was in the fifteenth century changed from Feld, Feild, Felde, and Fielde, into its present form; and John Field, the astronomer, was the first to introduce the Copernican system in England, and he received a patent in 1558, authorizing him to bear as a crest over his family arms, an arm issuing from clouds and supporting a globe. Dr. Richard Field, chaplain of Queen Elizabeth, was of the same family, and author of the "Book of the Church," republished in four volumes at Oxford in 1843.

It was the last day of autumn, November 30, 1819, at the Morgan Place, on a hill that sloped to the river, near Stockbridge, Mass., that Cyrus West Field was born. There were three older brothers—David Dudley, Timothy Beale, and Matthew Dickinson. The Cyrus came from a man of note in the town, named

Cyrus Williams, and the West from Dr. Stephen West, the predecessor of Dr David Dudley Field in the pulpit at Stockbridge. It is said of the child that he was of very delicate organization, so weak and frail that his body "had to be supported by a frame in which he could roll around the room till his limbs could get strength to bear him." There was, however (as his younger brother, Dr. Henry M. Field, the historian of the family, says in his vigorous English), "a nervous energy and elasticity derived from his mother," that brought him up, and "once set upon his little feet, he developed by incessant motion," and he was noted for "restless activity," a characteristic of his whole life. His frame, always slight, "became tough and wiry, capable of great effort and great endurance." Cyrus was the one of the Field boys who did not go to college. When fifteen years of age, his brother, David Dudley, who was nearly fifteen years his senior, and lived until his ninetieth year, secured a place for him in the store of A. T. Stewart. Cyrus was a thorough country boy, and his mother's boy, and did not take kindly to the city at first. Dr. Field says: "I well remember hearing my brother Matthew tell mother how Cyrus had come down to the boat on which he left the city, and wept bitterly; and mother telling him, the next time he went to New York, if his little brother felt so still, to bring him home." Mr. Field soon grew tired of being a clerk, and launched out in the manufacture and sale of paper. His capital was his brains—and in twelve years, when he was but thirty-three years old, he was in possession of a handsome fortune, and thought of retiring. This, however, was only a phase of restlessness, and he had before him nearly forty years of extraordinary activity. His great works and trials, his counting his gains and losses by millions, his glory and his sorrows, were all before him. The first of his many long journeys was to South America, with the artist Church, who painted for him the "Heart of the Andes." He ascended the Magdalena River, climbed the Andes to Bogota, crossed to Quito, and by way of Guayaquil, in Ecuador, reached the western coast, and returned home October, 1853, in time for the golden wedding of his parents. Then he set about the task of retirement from business, and was in a feverish state of energy upon that subject, and drifted into the twelve years harassing struggle, from the time when, in his house in Gramercy Park, he sat alone and turned over the globe, and thought of a telegraphic cable through the Atlantic, until the tremendous task was gloriously finished. After writing to Maury and Morse, Mr. Field called in his next-door neighbor, Peter Cooper; and next called Moses Taylor, who listened for an hour without saying a word; and brought in his most intimate friend, Marshall O. Roberts; and then Mr. Chandler White (who died the next year and was succeeded by Wilson G. Hunt). They organized "The New York, Newfoundland and London Telegraph Company," Field, Cooper, Taylor, and Roberts putting in $20,000 each, and White a smaller sum. Field and White, with David Dudley Field as legal adviser, set forth for Newfoundland to get a charter, and called it a fishing excursion. They got a land donation, and an exclusive right to land cable for fifty years. There was first to build a line of telegraph four hundred miles through the wilderness, across the huge island.

The land-line work lasted three years, and each of the parties who started by putting in $20,000, put in ten times that amount, and Field much more. The first cable across the Gulf of St. Lawrence was a failure. The second one held; and at last there rolled two thousand miles of tempestuous ocean, with a bottom that was a mystery, between the verge of the American soil and the Irish coast.

Mr. Cyrus W. Field visited England as an Atlantic cable missionary, and addressed the Chambers of Commerce in the principal cities, and the members of the Government. His intense convictions and incessant enthusiasm made way. The scientific men of England were cautious but hopeful. There had been, as it happened, the year before a survey of the North Atlantic, disclosing conditions of the bottom of the sea, and they were reassuring. The Government was so far interested as to engage to furnish ships to lay the cable, and to guarantee £14,000 a year for messages sent if it proved a success—four per cent. of the expected cost; but the capital had to be raised by private enterprise, and Mr. Field visited Glasgow, Birmingham, Manchester, and Liverpool, and subscribed one-fourth of the whole sum. His persistence was continued until the money was raised; but his friends in America were not eager for the stock, and he had to pay into the treasury of the company £88,000 in gold. The complete responsibility of Mr. Field appears at every point. He was the inspiration and the moving force from first to last. The work was strange, and there were delays and details of difficulty arising at every step, that a thousand times would have been insurmountable, if it had not been for the indomitable Field, whose tenacity even exceeded his impetuosity. There were two governments to be negotiated with to furnish ships. The cable was at last ready and on board—and three hundred and sixty-five years after Columbus sailed from the shores of Spain, Field sailed from Ireland, the Lord-Lieutenant, the Earl of Carlisle, making the speech of the occasion. The first effort was to lay the cable straight from Ireland to Newfoundland, and the start was made Wednesday, August 5, 1857. Three hundred and fifty miles out the cable broke. That was failure; and Field's private fortune had suffered severely from his absence. But the next year he was again in England and another start was made—the ships going halfway and joining the cable and running both ways. The cable parted again and again, and the ships returned to England. All were in despair but Field, and he rallied once more, and another trial was made—and succeeded. The cable lasted for a few weeks and gave out. The people were wild with delight at the success, and utterly cast down and disgusted by the failure. But the proof was out; the thing could be done. Cables had been laid in the Mediterranean, and final success was in sight. A new cable was made and coiled on the Great Eastern—and when starting from Ireland and one thousand two hundred and fifty miles were out, there was a break where the ocean was two miles deep, and a year was lost. Then another cable on the Great Eastern, and in 1866 it held out all the way over. This was the year of the war between Prussia and Austria, just after the battle of Sadowa. The next thing was to find and splice the lost cable of the year before, and that was done, one of the most wonderful things

that ever happened. Mr. Field told the story before the Chamber of Commerce of New York in November, 1866, saying, after the lost cable was found and spliced: "A few minutes of suspense and a flash told of the lightning current again set free—some turned their heads away and wept, others broke into cheers. Soon the wind arose and we were for thirty-six hours exposed to all the dangers of a storm on the Atlantic; yet in the fury of the gale, as I sat in the electrician's room, a flash of light came up from the deep, which, having passed to Ireland, came back to me in mid-ocean, telling that those so dear to me, whom I had left on the banks of the Hudson, were well, and following us with their prayers. This was like a whisper of God from the sea, bidding me keep heart and hope."

The Great Eastern safely landed the second cable, and the two worlds were safely forever joined. Mr. Field said he had often, in the long struggle—nearly thirteen years in the forests of Newfoundland, on ships in stormy seas—almost accused himself of madness, sacrificing everything for what might prove, after all, but a dream. He received the thanks of Congress, with a gold medal—the grand medal of the French Exposition of 1867. Honors were heaped upon him. If he had been a British subject, he would have been made a baronet. He had given twelve years without accepting remuneration for time or toil, and his hopeful, at last haggard dream, was a marvellous golden reality.

He was forty-seven years of age. He visited Egypt at the opening of the Suez Canal in 1864. He attended the millennial celebration of the settlement of Iceland in August, 1874. He made with his wife a trip around the world in 1880. He was known in all civilized lands as one of the foremost men of his time. All the people of the highest distinction in England knew and admired him as the most typical and celebrated of Americans. Mr. Gladstone, Mr. John Bright, the Duke of Argyle, Dean Stanley were his intimate friends. His house at Gramercy Park was the scene of a splendid hospitality. There gathered in his ample parlors, stored with souvenirs from every land, and in his dining-room, men and women of the highest consideration at home and abroad.

The keenness of his intelligence had increased with his unprecedented experience. His triumphs had given him confidence in his executive ability, and there was nothing too daring for him to contemplate. His bitter lessons in going to the verge of ruin, when he gave the fortune of his youth to the enterprise that he carried to success, were amply pondered, and he resolved never again to allow those near and dear to him to take the chances of cruel fortune and the anxieties of impending want.

When his years were numbered in the thirties, he was meditating retirement from business; and when he was in the sixties, his irrepressible activities carried him into the development of the elevated railway system on Manhattan Island, with the same ardor and fixed purpose with which, thirty years before, he had invaded the wilderness of Newfoundland to find a basis of operations for the conquest of the Atlantic. His faith was undaunted and without limit. His touch revealed new fortunes. He saw that the elevated lines that developed Harlem,

would also improve lower New York; and the Washington Building, No. 1 Broadway, was the materialization of the thought. The intensity that was remarked in his childhood, and that commanded the confidence of the capitalists of England, knew no abatement. He had been very cautious in advising Englishmen about investments, but had imparted to some of them the assurance that United States Bonds were as sound as the English investment of national debt, and they profited by accepting his judgment. He insisted upon popularizing the elevated roads by a uniform fare of five cents, and had it done against strong opposition, and was more confident than ever in the stock, of which he had an enormous holding. But it took years longer than he had calculated to make good his plans, and in the interval came a financial storm that compelled him to submit to a heavy loss. He bore his misfortune with fortitude, and still had a competency ample for him, when there came a torrent of ill-fortune—the loss of his beloved wife, and the failure of his sons, under circumstances that bore the distressing stamp of insanity in one of them, a taint of madness that was in the blood which had been so prolific of genius. He suffered where he was strongest and weakest—in his love and his pride.

His spirit would have been invincible if his heart had not been broken. No husband and father was ever more solicitous for the welfare of wife and children. The death of his wife, followed by the disasters that overtook his sons, wounded him as mortally as if a flight of arrows had pierced him. The very contingencies of fortune against which he thought he had provided with infinite painstaking, fell upon him as if from clouds in a sky he thought clear. His deepest resolution was that, after the long strain of facing the total loss of fortune during the dark years of the cable enterprise, he never again would consent to take the chances of the catastrophe that had haunted him, and from which he had escaped at such hazard that the fortunate interposition seemed miraculous; and he did not consciously do the wrong to himself and dear ones he had with such anxiety sought to avoid. His misfortunes were as incalculable as incurable.

The family affection of the Fields is one of their distinctions, and the love the four brothers, known to all the world, bore each other, was as gentle and full of all happiness as that of children. The "little acts of kindness, little deeds of love," that, as the old hymn says, would make the world an Eden, were never wanting. The festivals in which they delighted were those of the family—the eightieth birthday of the oldest brother—the golden wedding. In his long travels, Mr. Field was ever thoughtful of home, and it was like him, giving a dinner to a company of Americans in Edinburgh, to telegraph to their families so that each guest found the news of that day, from his own fireside, in a cablegram on his plate.

Mr. Field was no doubt attracted to Iceland, in 1874, by his studies of the northern waters; the way the world tapers off in the high latitudes, and the fact that Iceland must have been often in his mind as he studied Newfoundland and Ireland, and knew that Iceland was so near Greenland as to belong to the American continent, and to have been a stepping-stone from Norway to Labrador.

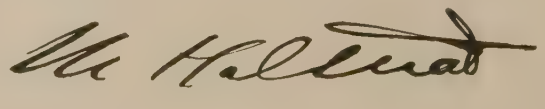
He was regarded by the Icelanders as almost as great a man as the King of Denmark, who visited his remote possession at the same time; and they thought Field even a greater discoverer than Columbus, for they said the Genoese navigator got his knowledge of the land in the west from their ancestors, and sailed on a certainty.

On the day President Garfield was shot down, he was on his way to Williams College, and was to dine that night with Mr. Cyrus Field at Ardsley, and go to the old place he called "the sweetest in the world" next day. A yacht was waiting to convey the President from Jersey City, when the news of the assassination became known. The President suffered mentally because he had not made adequate provision for his family, and Mr. Field headed a subscription list with a liberal sum, and in a few days had a quarter of a million dollars safely invested for Mrs. Garfield and her children. The motive of this timely and apt generosity was, first, to afford consolation to the dying chief magistrate.

It was within the scope of the ambition of Mr. Field to span the Pacific as well as the Atlantic Ocean with a cable; but having triumphantly overcome one ocean, he failed to put a girdle round the earth, as De Lesseps, having succeeded with the Suez Canal—the only work of the age to be named with the Atlantic telegraph—failed at Darien.

If the prosperity of Mr. Field had continued, and the light had not gone out in his home, he would not have been content until he had ransacked the globe for ways and means to have followed the sun to Asia with the telegraph. His footsteps point the way, and the road to India is westward.

The golden wedding of Mr. and Mrs. Cyrus W. Field was attended by hundreds of those who knew and loved them, and the great double house of the Fields, fronting on Gramercy Park, was full of bright faces and glittering with lights. The historic home was soon darkened and made desolate. The master, the renowned victor—no name more certain of an honorable immortality than his—was one whom "unmerciful disaster followed fast and followed faster." His wife passed away at Ardsley before the deeper gloom of the storm, and he died there July 12, 1892. In his delirium on the morning of his death, he was again on the stormy coast with the cable fleet; and he said: "Hold those ships—do not let them sail yet." Through the centuries there had descended to him from the old astronomer, his ancestor, the far-flashing conception of enterprise and understanding of the splendor of destiny that was his star, and mingled with its light were the gentle influences of the religion of his fathers, always to him real and radiant. He sleeps well, amid the scenes where he passed his boyhood, and for which his heart yearned always—beside his beloved wife; and carved in the marble of their tomb as the last testimony to the loving heart of his companion, are the words: "Love is eternal." The recollection of his sorrows will not, as the centuries come and go, dim the beautiful light of his illustrious name.



QUEEN VICTORIA

By Donald Macleod, D.D.

(born 1819)

Well do I remember the effect produced on the audience of students, of which I was then one, when Lord Macaulay delivered his Rectorial address in the University of Glasgow, and when, after giving such pictures as he alone could paint, of the character of the four centuries that had closed since the university had been founded—each epoch presenting a scene of bloodshed and misgovernment—he sketched the possible future of the college, and anticipated the time when coming generations would tell how certain contemplated changes had been accomplished during the reign of "the Good Queen Victoria." The phrase was accentuated by an oratorical swing; and when it was given, the tremendous burst of enthusiasm showed that they who listened felt the great historian had chosen the right epithet, and that he intended it in the sense that, as some monarchs are called "Great" and some "Little," so for all time Victoria would be named "the Good Queen." This was said more than forty years ago, before Tennyson had fixed the "Household name," "Albert the Good," for

> "That star
> Which shone so close beside Thee, that ye made
> One light together."

The epoch in our history which is embraced between the years 1837 and 1887, is unparalleled. At no time in the history of the nation, or of the world, has there been such rapid and beneficent progress. We, who are citizens of "the old country," scarcely realize the extent of our dominion. The Roman Empire was one-fourth its size; all the Russias contain an eighth less; it is sixteen times as large as France, and three times as large as the United States. The United Kingdom, with its colonies and dependencies, includes about one-fifth of the entire globe. The rapidity with which population has grown in some parts of our dominion may be measured by Australasia, which in 1837 had 134,059, and in 1885, 3,278,934, or twenty-three times as many more. When we turn from these figures to consider other fields of progress, we are still more amazed. It goes without saying that these last fifty years have seen the growth of railways

and steamships from their infancy to their present world-embracing influence. The mileage of railways open in the United Kingdom in 1837 was about 294 miles, but a great proportion was worked by horses. In 1885 the mileage was 19,169, the gross receipts, £69,555,774; they carried about 1,275,000,000 passengers, and employed 367,793 men. Not a steamer had crossed the Atlantic by steam alone when the queen came to the throne, and her accession was in the year previous to that during which Wheatstone in this country, and Morse in America, introduced electric telegraphy. We, who enjoy express trains, sixpenny telegrams, half-penny post-cards, and the parcel post, can scarcely realize that we are so near the time when mail-coaches and sailing-packets were almost the only means of conveyance, and when postage was a serious burden. The greatness of the changes in social life may be realized when we remember that, so recently as 1844, duelling was banished from the code of honor; that crime has diminished seventy-one per cent. since 1837; and that while fifty years ago Government did nothing for education, there are now 30,000 public schools under the Privy Council. These facts are suggestive of the extent of the advance. Or if, without touching on the marvellous victories of science, we try to form an estimate of religious progress, and take the tables for Protestant missions as giving a fair indication of the zeal and self-sacrifice of the churches, we find that while British contributions in 1837 amounted to £316,610, in 1885 they reached £1,222,261.

It may be said with truth that the progress thus indicated must have gone on, no matter who sat on the throne; but it would be unjust not to recognize the close influence which the Crown has directly and indirectly exercised on its advance. There has been no movement tending to the development of the arts and the industries of the country which has not enlisted the active sympathy of the royal family. From the first the Prince Consort recognized the important part which the sovereign could fulfil in reference to the peaceful victories of science and art. Beginning with agriculture—the improvement of stock and the better housing of agricultural laborers, we trace the effect of his constant toil in the series of industrial triumphs, of which the great exhibition of 1851 was the magnificent precursor; and, in recent years, the same kind of objects have always enlisted the best energies of the queen and her children.

The contrast is great and touching between the scene in Westminster Abbey, when, amid the pomp of a gorgeous ceremonial and the acclamation of her subjects, the fair girl-queen received the crown of Britain, and that other scene, when, after fifty years of a government that has been unblemished, she once more kneels in the same spot—a widow surrounded by her children and her children's children, bearing the burden of many sad as well as blessed memories, and encompassed with the thanksgivings of the three hundred millions of her subjects. We can imagine how oppressive, for one so loving, must then be the vision of the past, as she recalls, one after another, the once familiar and dear faces which greeted her coronation, those relatives, great ministers of state, and warriors of whom so few survive; and when all her happy married years and the years of

VICTORIA GREETED AS QUEEN

BY

H. T. WELLS

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H. T. WELLS.

Photogravure Goupil & Cie

parting and desolation appear in vivid retrospect. But if ever monarch had cause to bless God for His tender mercies, it must be she who can combine with the memory of her own life's hopes and trials the consciousness that, in the great work given her as a sovereign, she has been enabled to fulfil the beautiful desire of her innocent childhood, when, on her first being informed of her royal destiny, she indulged in no vain dream of power, but uttered the simple longing "to be good." That goodness has been her real greatness.

The life of her majesty is marked by three great stages—her youth, her married life, and her widowhood. Each is bound to each by the tie of a consistent growth, passing through those experiences which are typical of God's education of His children, whether high or low, rich or poor.

Her childhood, with its wise education, is very much the key to her after-life. Possessed naturally of a quick intellectual capacity, and an unusually accurate memory, a taste for music and the arts, and a deeply affectionate heart, she was admirably brought up by her mother, the Duchess of Kent, on whom the training of the future queen devolved from her infancy. If the education was as high as it was possible to afford a young and intelligent spirit, the moral influences were equally beneficial. The young princess, instead of being isolated within the formalities of a court, was allowed to become acquainted with the wants and sufferings of the poor, and to indulge her sympathies by giving them personal help. The contrast was a great one between the court of George IV., or even that of William, and the truly English home where the Duchess of Kent nurtured this sweet life in all that was simple, loving, and pure. There could scarcely have been a better school for an affectionate nature. All that we learn of her majesty at that time gives a consistent picture of great vivacity, thorough directness in her search after truth, warmth of heart, and considerateness for others, with a genuine love for all that is morally good. These were the characteristics which impressed those who saw her on the trying occasion when she was suddenly ushered into the foremost place in the greatest empire in the world. It was these characteristics which touched the hearts of the good archbishop and of the Chancellor of England when they announced her great destiny to the girl suddenly summoned from slumber. That first request, "My Lord Archbishop, pray for me!" revealed the depth of her character. It was the same when she had next day to pass through the ordeal of meeting the great councillors of state for the first time. Lord Melbourne, the Duke of Wellington, Peel, and the keen-eyed Secretary Greville, all felt the beautiful combination of dignity with unaffected simplicity, and of quick intelligence with royal courtesy. But they did not see the episode which followed the fatigue and excitement of the long formalities of the council, when the young queen rushed first of all to her mother's arms, there to indulge her feelings in a burst of tears, and then, with girlish naïveté, claiming the exercise of her royal prerogative to procure for herself two hours of absolute solitude.

The earlier years of her reign were happily blessed with the wise and beneficent influence of Lord Melbourne. His relationship to the youthful sovereign

was more that of a father and able political instructor than of a formal first minister of the crown. He was too experienced not heartily to appreciate the beautiful character of his young mistress, and the interest he took in her political education, and in everything likely to further her prosperity and happiness, was evidently kindled by warm affection. She was equally favored in having as adviser so sagacious a relative as her uncle Leopold, the late King of the Belgians. The Duke of Wellington regarded her almost as a daughter; and there was also, ever at hand, another, whose trained intellect and loyal heart exercised no little influence on her career—Baron Stockmar—to whose lofty ideal of the functions of royalty, calmly balanced treatment of all questions of state policy, and high-toned moral sympathies, both the queen and the prince consort have amply expressed their indebtedness.

Without touching further on the earlier period of her reign, which was not without many incidents of interest, we turn to the married years of the queen as to a bright and sunny memory.

The position of an unmarried or widowed queen necessarily entails a peculiar loneliness. She is surrounded by the rigorous demands of state necessity. If she has to form a judgment upon documents submitted to her, there is no one so close to her and so independent of all other influences as to be truly an *alter ego*. Faithful servants of the crown may do their best to be of use, but no one of them can be so near as to receive such unguarded confidences as can be given to the husband who shares every joy and sorrow. The queen's married life was ideally perfect. She married the man she loved, and each year deepened her early affection into an admiration, a reverence, and a pride which elevated her love into consecration.

There was no home in England made more beautiful by all that was tender, cultured, and noble than that in which "the blameless prince" fulfilled his heroic career of duty, and shed the bright light of his joyous, affectionate, and keenly intellectual life. There were few homes in which a greater amount of trying and anxious work was more systematically accomplished, or in which there was a more exquisite blending of hard thinking with the enjoyment of the fine arts and the fulness of loving family happiness. We have picture after picture given us in the life of the Prince Consort which puts us in touch with these brilliant years, when the queen and he were never parted but for one or two brief intervals. Early hours of close labor were followed by a genial and hearty relaxation, and at every turn the wife and sovereign felt the blessedness of that presence which ministered to her in sickness with the gentleness of a woman, and which she leaned upon in hours of difficulty with complete trust in the strength and trueness of his wise intellect. There was no decrease on either side in those feelings and utterances of feeling which are so beautiful when they carry into after years the warmth of the first attachment, only hallowed and deepened by experience.

There were many fresh features in the kind of life which was introduced by the queen and the consort into the habits of the court. Among these none

MONTBARD PINXIT.

WINDSOR CASTLE.

were more marked than the breaking up of that monotony which the restrictions that hitherto prevailed as to the residence of the royal family in one or two state palaces entailed. We can well understand how the Empress Eugenie should have found the Tuileries, in spite of its grandeur, no better than "*une belle prison*," and her delight at the comparative freedom she enjoyed at Windsor. The queen and Prince Consort inaugurated a new era in the customs of the court by taking advantage of the facilities afforded by modern methods of conveyance. Scarcely any part of the country celebrated for scenery, or any town famous for its industries, remained unvisited by them.

The beneficial effects of these journeys were great. Loyalty is to a large extent a personal matter, and is necessarily deepened when the representative of the state not only possesses moral dignity of character but comes frequently into contact with the people. It is also of use to the crown that its wearer should know, from actual observation, the conditions of life in the country. It is in the light of this mutual action of acquaintance between prince and people that we estimate the value of that knowledge which the Prince of Wales, his brothers, and his sons have gained of so many parts of the empire. The Prince Consort felt keenly the use of these influences. "How important and beneficent," he once said, "is the part given to the royal family of England to act in the development of those distant and rising countries, who recognize in the British crown and their allegiance to it, their supreme bond of union with the mother country and to each other!"

During each year of their married life the queen and Prince Consort went on some interesting tour. In England, Oxford and Cambridge, Birmingham, Leeds, Liverpool, Manchester, received royal visits, while such historical houses as Chatsworth, Hatfield, Stowe, and Strathfieldsay were honored by their presence. Ireland was thrice visited. Wales more than once. The first visit to Scotland was made in 1842, another in 1844, and from 1847 only one year passed without a long residence in the north—first at Ardverachie, on Loch Laggan, and then at what was to be their Highland home on Deeside. Repeated visits were also made to the Continent, sometimes in state and sometimes in as much privacy as could be commanded.

It is when we come to this bright time, so full of fresh interest and of a delightful freedom, that we have the advantage of the queen's own "Leaves from the Journal of our Life in the Highlands." Her visit to Edinburgh in 1842, and the drive by Birnam and Aberfeldy to Taymouth, and the splendor of the reception, when, amid the cheers of a thousand Highlanders and the wild notes of the bagpipes, she was welcomed by Lord Breadalbane, evidently stirred every feeling of romance. "It seemed," she wrote, "as if a great chieftain of olden feudal times was receiving his sovereign." It appeared like a new world, when, throwing off for a time the restrictions of state, she found herself at Blair two years afterward, climbing the great hills of Atholl, and from the top of Tulloch looking forth on the panorama of mountain and glen. "It was quite romantic; here we were with only this Highlander behind us holding the ponies, not a house,

not a creature near us but the pretty Highland sheep, with their horns and black faces. It was the most delightful, most romantic, ride and walk I ever had." These early visits to Scotland inspired her with her love for the Highlands and the Highlanders. She found there quite a world of poetry. The majestic scenery, the fresh, bracing air, the picturesqueness of the kilted gillies, the piping and the dancing, and the long days among the heather, recalled scenes which Sir Walter Scott has glorified for all time, and which are especially identified with the fortunes of the unhappy Stuarts, of whom she is now the nearest representative.

It was in 1848 that the court proceeded for the first time to Balmoral, then a picturesque but small castle. The air of Deeside had been recommended by Sir James Clark, the queen's physician, and his anticipation of the benefits to be derived from residence there was so completely realized that although four years passed before the property was actually purchased, yet preparations were made for establishing there a royal home. Plans for the future castle and for laying out the grounds were gone into by the prince with keen delight. "All has become my dear Albert's own creation, own work, own building, own laying out, as at Osborne; and his great taste and the impress of his dear hand have been stamped everywhere."

It was here that the queen and the Prince Consort enjoyed for more than twelve years a delightful freedom, mingling with their people, devising the wisest methods for insuring their well-being, going with them to worship in their plain (very plain!) parish church, and being to each and all unaffectedly sincere friends. Every spot around soon became consecrated by some sweet association. Every great family event had its commemoration amid the scenery around the castle; though many a cairn, once raised in joy, is now, alas! a monument of sorrow. The life at Balmoral was in every sense beneficial. There never has been there the kind of relaxation that comes from idleness. Systematic work has been always maintained at Balmoral as at Windsor. Early hours in the fresh morning and a regular arrangement of time during the day have given room for the constant business of the crown; but every now and then there were glorious "outings," whether for sport or for some far-reaching expedition, which gave fresh zest to happy and united toil.

There is more than one characteristic of the queen which may recall to Scotchmen the history of their own Stuarts, and among these is her enjoyment of expeditions *incognita*. The Prince Consort, with his simple German heart, entered fully into the "fun" of such journeys, as, starting off on long rides across mountain-passes and through swollen burns and streams, lunching on heights from which they could gaze far and wide over mountain and strath, they would reach some little roadside inn, and there, assuming a feigned name, had the delight of feeling themselves "private people," while the simple fare and the ridiculous *contretemps* which frequently occurred were enjoyed the more keenly because of their contrast to accustomed state. And during all these years their domestic life was unbroken by any great family sorrow. It was not till a year

before her great bereavement that the queen lost her mother, the Duchess of Kent. Few can read the account of that sorrowful parting without being drawn nearer to the sovereign by the tie of a common humanity, so deep and tender is the affection that is revealed.

But till 1861 the queen was surrounded by all those who were dearest to her, and she and the prince shared the sweet task of superintending their children's education. Few parents more anxiously considered the best methods for securing a sound moral and religious training. "The greatest maxim of all," writes the queen, "is that the children shall be brought up as simply and in as domestic a way as possible, that (without interfering with their lessons) they should be as much as possible with their parents, and learn to place their greatest confidence in them in all things." As to religious training, the queen's conviction was that it is best when given to a child "day by day at his mother's knee." It was only the great pressure of public duty which rendered it impossible for her to fulfil her part so completely as she desired. "It is a hard case for me," her majesty writes, in reference to the princess royal, "that my occupations prevent me being with her when she says her prayers."

The religious convictions of the queen and the Prince Consort were deep. They both cared little for those mere accidents and conventionalities of religion which so many magnify into essentials. The prince, eminently devout, insisted on the realities of religion. "We want not what is safe, but true," was his commentary on the exaggerated outcry against "Essays and Reviews." "The Gospel, and the unfettered right to its use," was his claim for Protestantism. For his own spirit, like that of the queen, was truly religious. The quiet evenings spent together before communion, and the directness and reverence with which both served God were combined with an utter abhorrence of all intolerance. Such qualities are generally misunderstood by the narrow-minded, who have only their own "shibboleths" to test all faith, and the one Church—whatever it may be—that they regard as "true." The queen and the prince rose above such distinctions; they shared the catholicism of St. Paul, "Grace be with all who love the Lord Jesus Christ in sincerity."

But these bright and happy years were doomed to a sudden ending. It is only when we have realized all that her husband was to her that we can measure how fearful was the blow to her loving heart when he who was her pride and her constant companion was laid low. We may well feel what a shattering it brought to all that hitherto had enriched her life, and how very desolate her position became when she was left in loneliness on the throne, a widow separated by her queendom from many of those supports which others find near them, but from which she was deprived by her position. "Fourteen happy and blessed years have passed," she wrote, in 1854, "and I confidently trust many more will pass, and find us in old age as we now are, happily and devotedly united. Trials we must have, but what are they if we are together?" In God's wisdom that hope was not to be realized, and in 1861 the stroke fell, and it fell with crushing power.

It is not for us to lift the curtain of sorrow that fell like a funeral pall over the first years of her widowhood. For many a day it seemed as if the grief was more than she could bear, and although she was sustained through it all by God's grace, and supported by the sympathy of the nation, yet it was naturally a long-continued and absorbing sorrow. Other blows have fallen since then. The tender and wise Princess Alice, and the thoughtful and cultured Duke of Albany, have also been gathered to their rest; and the queen has had to mourn over one after another of her most faithful servants taken from her. But the hallowing hand of time, the soothing remembrance of unspeakable mercies, and the call to noble duty, have done much to restore the strength, if not the joy, of former days. Her people rejoice, and the influence of the Crown is enormously strengthened, when in these later years the queen has been able once more to mingle with the nation.

When we touch on the third period of her life—which may well be termed that of sorrow, although brightened by many happy events in the domestic life of her children—we reach times that are familiar to every reader. These have been years in which the cares of state have often been exceedingly burdensome. The days of anxiety during the Crimean War and the Indian Mutiny have more than once had their counterpart. Afghanistan, Zululand with its Isandula, and the Transvaal War with its Majuba Hill, Egypt, and the Soudan, brought hours of sore anxiety to the sovereign; but they were probably not more harassing to intellect and heart than the months of difficult diplomacy which the threatening aspect of European politics frequently laid upon Government.

I may say in passing that no portrait of her appears to me to be quite satisfactory. They usually have only one expression, that of sadness and thoughtfulness, and so far they give a true representation; for when there is nothing to rouse her interest and when she is silent, that look of sadness is doubtless what chiefly impresses one. Her face then bears the traces of weary thought and of trying sorrow; but when she is engaged in conversation, and especially if her keen sense of humor has been touched, her countenance becomes lit with an exceedingly engaging brightness, or beams with heartiest laughter.

Her life at Balmoral since her great sorrow maintains, as far as may be, the traditions of the happy past. She still makes expeditions, *cognita* or *incognita*, sometimes to the scenes of former enjoyment or to new places of interest. She has in this way visited Blair, Dunkeld, Invermark, Glenfiddich, Invertrossachs, Dunrobin, Inverlochy, Inverary, Loch Marll, and Broxmouth.

The queen, among her people at Balmoral, gives a splendid example to every landlord. "The first lady in the land" is the most gracious mistress possible. Her interest is no condescending "make-believe," as we sometimes find it in the case of others, who seek a certain popularity among their dependents by showing spasmodic attentions which it is difficult to harmonize with a prevailing indifference. With the queen it is the unaffected care of one who really loves her people, and who is keenly touched by all that touches them. She knows them all by name, and in the times of their sorrow they experience from her a personal

sympathy peculiarly soothing. There is indeed no part of the volumes she has given us more surprising than the minute knowledge she there shows of all the people who have been in any way connected with her. The gillies, guides, and gamekeepers, the maids who have served her, the attendants, coachmen, and footmen, are seldom mentioned without some notice of their lives being recorded as faithfully as is the case with peers and peeresses. How few mistresses are there who, burdened as she is with duty, would thus hold in kindest remembrance each faithful servant, become acquainted with their circumstances, and provide for them in age or in trial with generous solicitude. It is this rich humanity of feeling that is her noblest characteristic. The public are accustomed to see messages of sympathy sent by the queen in cases of disaster and of accident, but they cannot know how truly those calamities fall upon her own heart. As far as her life in the Highlands is concerned, she is now perhaps the best specimen we have of what the old Highland chieftain used to be, only that in her case we find the benefits of paternal government without its harsh severities. There is the same frank and hearty attachment to her dependents, the same intimate knowledge of each one of them, the same recognition of services. It is a queenly quality to recognize what is worthy, no matter what the rank may be. It was from this she placed so much confidence in her faithful attendant, John Brown. Her great kindness to him was her own generous interpretation of the long and loyal services of one who, for more than thirty years, had been personal attendant on the Prince Consort and herself, leading her pony during many a long day upon the hills, watching over her safety in London as well as on Deeside, and who, on more than one occasion, protected her from peril. "His attention, care and faithfulness cannot be exceeded," she writes in the first volume of the "Leaves," "and the state of my health, which of late years has been sorely tried and weakened, renders such qualifications most valuable."

FflorENCE NIGHTINGALE

By Lizzie Alldridge

(born 1820)

A very distinguished lady nurse, who has been in half the hospitals in Europe, once said to me: "To Florence Nightingale, who was my own first teacher and inspirer, we owe the wonderful change that has taken place in the public mind with regard to nursing. When I first began my hospital training, hospital nursing was thought to be a profession which no decent woman of any rank could follow. If a servant turned nurse, it was supposed she did so because she had lost her character. We have changed all that now. Modern nursing owes its first impulse to Florence Nightingale."

I don't suppose that any of my young readers have ever seen a hospital nurse of the now nearly extinct Gamp type; but I have. I have seen her, coarse-faced, thick of limb, heavy of foot, brutal in speech, crawling up and down the stairs or about the wards, in dresses and aprons that made me feel (although quite well and with a good healthy appetite) as if I would not have my good dinner just then. These were the old-fashioned "Sairey Gamps." But Florence Nightingale has been too strong for even the immortal "Sairey." Go now through the corridors and wards of a modern hospital; every nurse you meet will be neat and trim, with spotless dress and cap and apron, moving quickly but quietly to and fro, doing her work with kindness and intelligence.

It was in 1820, the year George the Third's long life quite faded out, that the younger of the two daughters of William Shore Nightingale was born at Florence, and named after that lovely city.

Mr. Nightingale, of Embley Park, Hampshire, and the Lea Hurst, Derbyshire, was a wealthy land-owner. He was of the Shores of Derbyshire, but inherited the fortune with the name of Nightingale through his mother. Lea Hurst, where Miss Nightingale passed the summer months of each year, is situated in the Matlock district, among bold masses of limestone rock, gray walls, full of fossils, covered with moss and lichen, with the changeful river Derwent now dashing over its stony bed, now quietly winding between little dales with clefts and dingles. Those who have travelled by the Derby and Buxton Railway will remember the narrow valleys, the mountain streams, the wide spans of high moorland, the distant ranges of hills beyond the hills of the district. Lea Hurst, a gable-ended house, standing among its own woods and commanding wonderful views of the Peak country, is about two miles from Cromford station.

At Lea Hurst much of Florence Nightingale's childhood was passed. There she early developed that intense love for every living suffering thing, that grew with her growth, until it became the master-passion of her life.

Florence Nightingale always retained her belief in animals. Many years after her name was known all over the world, she wrote: "A small pet animal is often an excellent companion for the sick, for long chronic cases especially." An invalid, in giving an account of his nursing by a nurse and a dog, infinitely preferred that of the dog. "Above all," he said, "it did not talk." Even Florence Nightingale's maimed dolls were tenderly nursed and bandaged.

Mr. Nightingale was a man singularly in advance of his time as regards the training of girls. The "higher education of women" was unknown to the general public in those days, but not to Mr. Nightingale. His daughter was taught mathematics, and studied the classics, history, and modern languages under her

father's guidance. These last were afterward of the greatest use to her in the Crimea. But she was no "learned lady;" only a well-educated Englishwoman all round. She was an excellent musician, and skilful in work with the needle; and the delicate trained touch thus acquired stood her in good stead, for the soldiers used to say that a wound which Miss Nightingale dressed "was sure to get well."

She felt a strong craving for work, more even than the schools and cottages, the care of the young, the sick, and the aged (in which she followed her mother's example) could afford her at her father's home. Mrs. Browning tells us to

> "Get leave to work
> In this world; 'tis the best you get at all."

Florence Nightingale not only got leave to work, but did so, very quietly but very persistently. And so she became a pioneer for less courageous souls, and won for them also "leave to work." Taught by her father, she soon learned to distinguish between what was really good work and which mere make-believe. She had many opportunities, even as a child, of seeing really fine, artistic work both in science and art. She set up a high standard, and was never satisfied with anything short of the best, either in herself or others. It is a grand thing to know good work when you see it.

The love of work, however, with Florence Nightingale, always went hand in hand with that love for every living thing in God's world which was born with her and which was never crowded out by all this education. As she grew up she more and more felt that helpfulness was the first law of her being; but her reason and intellect having been so carefully trained, she was thoroughly persuaded that, in order to help effectually, one must know thoroughly both the cause of suffering and its radical cure.

The study of nursing had an irresistible attraction for her. Few people in England at that time valued nursing. Florence Nightingale was convinced that indifference arose from the all but absolute ignorance of what nursing should be, and she set herself to acquire the necessary knowledge to enable her to carry it out in the very best and most scientific way. She never lost an opportunity of visiting a hospital, either at home or abroad. She gave up the life of so-called "pleasure," which it was then considered a young woman of her position ought to lead, and after having very carefully examined innumerable nursing institutions at home and abroad, at length went to the well-known Pastor Fliedner's Deaconesses, at Kaiserswerth, where she remained for several months.

After leaving Kaiserswerth, Miss Nightingale was for a while with the Sisters of St. Vincent de Paul, in Paris, so anxious was she to see how nursing was carried on under many different systems. It was during 1851, the year of the first Great Exhibition, that she was thus fitting herself practically for the great task that lay before her in the not very distant future.

On her return to England, Miss Nightingale found a patient that required all her time and help of every kind. This patient was none other than the Sanato-

rium in Harley Street for gentlewomen of limited means. Into the saving of this valuable institution Miss Nightingale threw all her energy, and for two or three years, hidden away from the outside world, she was working day and night for her poor suffering ladies, until at length she was able to feel that the Sanatorium was not only in good health, but on the high road to permanent success.

Florence Nightingale's own health, however, gave way under the long-continued strain of anxiety and fatigue; she was obliged to leave the invalids for whom she had done so much, and go home for the rest and change she so sorely needed.

Now, while Miss Nightingale had been quietly getting "Harley Street" into working order, the gravest and most terrible changes had taken place in the affairs of the nation, and not only in those of England, but in those of the whole of Europe. In 1851, when the first Great Exhibition was opened, all was peace—the long peace of forty years was still unbroken—people said it never was to be broken again, and that wars and rumors of wars had come to an end. So much for human foreknowledge. By the autumn of 1854, the horrors of the Crimean war had reached their climax. The *Times* was full, day by day, of the most thrilling and appalling descriptions of the hideous sufferings of our brave men—sufferings caused quite as much by the utter breakdown of the sanitary administration as by even the deadly battles and trenchwork; while every post was bringing agonizing private letters appealing for help.

Men were wounded in the Crimea, the hospitals were far off at Scutari, the wide and stormy Black Sea had to be crossed to reach them; the stores of food, clothing, and medicine that might have saved many a life were at Varna, or lost in the Black Prince; the state of the great Barrack Hospital at Scutari was indescribably horrible; everybody was frantic to rush to the relief; no one knew what best to do; public feeling was at fever-heat. How could it be otherwise when William Howard Russell, the *Times* correspondent, was constantly writing such true but heartrending letters as this:

"The commonest accessories of a hospital are wanting; there is not the least attention paid to decency or cleanliness; the stench is appalling; the fetid air can barely struggle out to taint the atmosphere, save through the chinks in the walls and roofs; and for all I can observe, these men die without the least effort being made to save them. Here they lie, just as they were let gently down on the ground by the poor fellows, their comrades, who brought them on their backs from the camp with the greatest tenderness, but who are not allowed to remain with them. The sick appear to be tended by the sick, and the dying by the dying."

Miss Nightingale, who was then recovering from her Harley Street nursing, deeply felt the intensity of the crisis that was moving the whole nation; but, whereas the panic had driven most of the kind people who were so eager to help the army, nearly "off their heads," it only made hers the cooler and clearer. She wrote, offering her services to Mr. Sidney Herbert, afterward Lord Herbert, the minister for war, who, together with his wife, had long known her, and had recognized her wonderful organizing faculties, and her great practical experience.

It was on October 15th that she wrote to Mr. Herbert. On the very same day the minister had written to her. Their letters crossed. Mr. Herbert, who had himself given much attention to military hospitals, laid before Miss Nightingale, in his now historical letter, a plan for nursing the sick and wounded at Scutari.

"There is, as far as I know," he wrote, "only one person in England capable of organizing and directing such a plan, and I have been several times on the point of asking you if you would be disposed to make the attempt. That it will be difficult to form a corps of nurses, no one knows better than yourself."

After specifying the difficulty in finding not only good nurses, but good nurses who would be willing to submit to authority, he goes on: "I have this simple question to put to you. Could you go out yourself and take charge of everything? It is, of course, understood that you will have absolute authority over all the nurses, unlimited power to draw on the Government for all you judge necessary to the success of your mission; and I think I may assure you of the co-operation of the medical staff. Your personal qualities, your knowledge, and your authority in administrative affairs, all fit you for this position."

Miss Nightingale at once concurred in Mr. Herbert's proposal. The materials for a staff of good nurses did not exist, and she had to put up with the best that could be gathered on such short notice.

On the 21st, a letter by Mr. Herbert, from the War Office, told the world that "Miss Nightingale, accompanied by thirty-four nurses, will leave this evening. Miss Nightingale, who has, I believe, greater practical experience of hospital administration and treatment than any other lady in this country, has, with a self-devotion for which I have no words to express my gratitude, undertaken this noble but arduous work."

A couple of days later there was a paragraph in the *Times* from Miss Nightingale herself, referring to the gifts for the soldiers that had been offered so lavishly: "Miss Nightingale neither invites nor refuses the generous offers. Her banking account is open at Messrs. Coutts's." On October 30th, the *Times* republished from the *Examiner* a letter, headed, "Who is Miss Nightingale?" and signed "One who has known her." Then was made known to the British public for the first time who the woman that had gone to the aid of the sick and wounded really was; then it was shown that she was no hospital matron, but a young and singularly graceful and accomplished gentlewoman of wealth and position, who had, not in a moment of national enthusiasm, but as the set purpose of her life from girlhood up, devoted herself to the studying of God's great and good laws of health, and to trying to apply them to the help of her suffering fellow-creatures.

From October 30, 1854, the heroine of the Crimean war was Florence Nightingale, and the heroine of that war will she be while the English tongue exists and English history is read. The national enthusiasm for her was at once intense, and it grew deeper and more intense as week by week revealed her powers. "Less talent and energy of character, less singleness of purpose and devo-

tion, could never have combined the heterogeneous elements which she gathered together in one common work and labor of love."

I met the other day a lady who saw something of Miss Nightingale just before she went out to the East. This lady tells me that Miss Nightingale was then most graceful in appearance, tall and slight, very quiet and still. At first sight her earnest face struck one as cold; but when she began to speak she grew very animated, and her dark eyes shone out with a peculiarly star-like brightness.

This was the woman whose starting for the East was at once felt to be the beginning of better things; but so prejudiced were many good English people against women-nurses for soldiers, that Mrs. Jameson, writing at the time, calls the scheme "an undertaking wholly new to our English customs, much at variance with the usual education given to women in this country." She, sensible woman, one in advance of her day, hoped it would succeed, but hoped rather faintly. "If it succeeds," she goes on, "it will be the true, the lasting glory of Florence Nightingale and her band of devoted assistants, that they have broken down a 'Chinese wall of prejudices,' religious, social, professional, and have established a precedent which will, indeed, multiply the good to all time."

The little band of nurses crossed the Channel to Boulogne, where they found the fisherwomen eager for the honor of carrying their luggage to the railway. This display, however, seemed to Miss Nightingale to be so out of keeping with the deep gravity of her mission, that, at her wish, it was not repeated at any of the stopping-places during the route. The Vectis took the nurses across the Mediterranean, and a terribly rough passage they had. On November 5th, the very day on which the battle of Inkermann was fought, the ship arrived at Scutari.

Miss Nightingale and her nurses landed during the afternoon, and it was remarked at the time that their neat black dresses formed a strong contrast to those of the usual hospital attendants.

The great Barrack Hospital at Scutari, which had been lent to the British by the Turkish Government, was an enormous quadrangular building, a quarter of a mile each way, with square towers at each angle. It stood on the Asiatic shore a hundred feet above the Bosphorus. Another large hospital stood near; the whole, at times, containing as many as four thousand men. The whole were placed under Miss Nightingale's care. The nurses were lodged in the southeast tower.

The extent of corridors in the great hospital, story above story, in which the sick and wounded were at first laid on wretched palliasses, as close together as they could be placed, made her inspection and care most difficult. There were two rows of mattresses in the corridors, where two persons could hardly pass abreast between foot and foot. The mortality, when the *Times* first took up the cause of the sick and wounded, was enormous. In the Crimea itself there was not half the mortality in the tents, horrible as were the sufferings and privations of the men there.

"The whole of yesterday," writes one of the nurses a few days after they had arrived, "one could only forget one's own existence, for it was spent, first in sewing the men's mattresses together, and then in washing them and assisting the surgeons, when we could, in dressing their ghastly wounds after their five days' confinement on board ship, during which space their wounds had not been dressed. Hundreds of men with fever, dysentery, and cholera (the wounded were the smaller portion) filled the wards in succession, from the overcrowded transports."

Miss Nightingale's position was a most difficult one. Everything was in disorder, and every official was extremely jealous of interference. Miss Nightingale, however, at once impressed upon her staff the duty of obeying the doctors' orders, as she did herself. An invalids' kitchen was established immediately by her to supplement the rations. A laundry was added; the nursing itself, was, however, the most difficult and important part of the work.

But it would take far too much space to give all the details of that kind but strict administration which brought comparative comfort and a low death-rate into the Scutari hospitals. During a year and a half the labor of getting the hospitals into working order was enormous, but before the peace arrived they were models of what such institutions may be.

Speaking of Miss Nightingale in the hospital at Scutari, the *Times* correspondent wrote: "Wherever there is disease in its most dangerous form, and the hand of the spoiler distressingly nigh, there is that incomparable woman sure to be seen; her benignant presence is an influence of good comfort even amid the struggles of expiring nature. She is a ministering angel, without any exaggeration, in these hospitals, and as her slender form glides quietly along each corridor, every poor fellow's face softens with gratitude at the sight of her. When all the medical officers have retired for the night, and silence and darkness have settled down upon these miles of prostrate sick, she may be observed, alone, with a little lamp in her hand, making her solitary rounds. With the heart of a true woman and the manner of a lady, accomplished and refined beyond most of her sex, she combines a surprising calmness of judgment and promptitude and decision of character. The popular instinct was not mistaken, which, when she set out from England on her mission of mercy, hailed her as a heroine; I trust that she may not earn her title to a higher, though sadder, appellation. No one who has observed her fragile figure and delicate health can avoid misgivings lest these should fail."

Public feeling bubbled up into poetry. Even doggerel ballads sung about the streets praised

> "The Nightingale of the East,
> For her heart it means good."

Among many others, Longfellow wrote the charming poem, "The Lady with the Lamp," so beautifully illustrated by the statuette of Florence Nightingale at St. Thomas's Hospital, suggested by the well-known incident recorded in a soldier's letter: "She would speak to one and another, and nod and smile to

many more; but she could not do it to all, you know, for we lay there by hundreds; but we could kiss her shadow as it fell, and lay our heads on our pillows again, content."

"Lo! in that house of misery
A lady with a lamp I see
Pass through the glimmering gloom.
And flit from room to room.

"And slow, as in a dream of bliss,
The speechless sufferer turns to kiss
Her shadow as it falls
Upon the darkening walls.

"On England's annals, through the long
Hereafter of her speech and song,
A light its rays shall cast
From portals of the past.

"A lady with a lamp shall stand
In the great history of the land,
A noble type of good
Heroic womanhood."

In the following spring Miss Nightingale crossed the Black Sea and visited Balaclava, where the state of the hospitals in huts was extremely distressing, as help of all kinds was even more difficult to obtain there than at Scutari. Here Miss Nightingale spent some weeks, until she was prostrated by a severe attack of the Crimean fever, of which she very nearly died.

But at length the Crimean war came to an end. The nation was prepared to welcome its heroine with the most passionate enthusiasm. But Florence Nightingale quietly slipped back unnoticed to her Derbyshire home, without its being known that she had passed through London.

Worn out with ill-health and fatigue, and naturally shrinking from publicity, the public at large has scarcely ever seen her; she has been a great invalid ever since the war, and for many years hardly ever left her house.

But her energy has been untiring. She was one of the founders of the Red Cross Society for the relief of the sick and wounded in war. When the civil war broke out in America she was consulted as to all the details of the military nursing there. "Her name is almost more known among us than even in Europe," wrote an American. During the Franco-German war she gave advice for the chief hospitals under the Crown Princess, the Princess Alice, and others. The Children's Hospital, at Lisbon, was erected from her plans. The hospitals in Australia, India, and other places have received her care. A large proportion of the plans for the building and organization of the hospitals erected during the last twenty-five years in England, have passed through her hands.

The Queen, who had followed her work with constant interest, presented her with a beautiful and costly decoration. The nation gave £50,000 to found the

Nightingale Home. In this home Miss Nightingale takes the deepest interest, constantly having the nurses and sisters to visit her, and learning from them the most minute details of its working. Great is evidently her rejoicing when one of her "Nightingales" proves to be a really fine nurse, such a one, for instance, as Agnes Jones, the reformer of workhouse nursing.

This was the high position Florence Nightingale conquered for her fellow-women. Hundreds have occupied, and are still occupying, the ground she won for them. "And I give a quarter of a century's European experience," she goes on, "when I say that the happiest people, the fondest of their occupation, the most thankful for their lives, are, in my opinion, those engaged in sick nursing."

Officials in high places, ever since the Crimean war, have sent Miss Nightingale piles, mountains one might say, of reports and blue books for her advice. She seems to be able to condense any number of them into half a dozen telling sentences; for instance, the mortality in Indian regiments, during times of peace, became exceedingly alarming. Reports on the subject were poured in upon her. "The men are simply treated like Strasbourg geese," she said in effect. "They eat, sleep, frizzle in the sun, and eat and sleep again. Treat them reasonably, and they will be well." She has written much valuable advice on "How to live and not die in India."

Children's hospitals have also engaged much of her attention. You cannot open one of her books at hazard without being struck with some shrewd remark, that tells how far-reaching is her observation; as in this, on the playgrounds of children's hospitals: "A large garden-ground, laid out in sward and grass hillocks, and such ways as children like (not too pretty, or the children will be scolded for spoiling it), must be provided."

Here, I am sorry to find, my space comes to an end, but not, I hope, before I have been able to sketch in some slight way what great results will assuredly follow, when Faith and Science are united in one person. In the days, which we may hope are now dawning, when these gifts will be united, not in an individual here and there, but in a large portion of our race, there will doubtless be many a devoted woman whose knowledge may equal her practical skill, and her love for God and her fellow-creatures, who will understand, even more thoroughly than most of us now can (most of us being still so ignorant), how deep a debt of gratitude is due to her who first opened for women so many paths of duty, and raised nursing from a menial employment to the dignity of an "Art of Charity"—to England's first great nurse, the wise, beloved, and far-seeing heroine of the Crimean war, the Lady of the Lamp, Florence Nightingale.

DR. LOUIS PASTEUR*

By Dr. Cyrus Edson

(1822–1895)

Louis Pasteur, the Columbus of "the world of the infinitely little"—to quote the phrase of Professor Dumas — was born in the town of Dôle, France, on December 27, 1822. His father was an old soldier, decorated on the field of battle, who, after leaving the army, earned his bread as a tanner. In 1825 M. Pasteur moved from Dôle to the town of Arbois, on the borders of the Cuisance, where his son began his education in the communal college. The boy was exceedingly fond of fishing and of sketching, and it was not until he reached the age of fourteen that he began study in earnest. There being no professor of philosophy at Arbois, Louis Pasteur moved to Besançon, where he received the degree of *bachelier ès lettres* and was at once appointed as one of the tutors. Here he studied the course in mathematics necessary for admission into the École Normale, in Paris, which he entered in October, 1843. Already his passion for chemistry had shown itself, and he took the lectures in that science delivered by M. Dumas at the Sorbonne, and by M. Balard at the École Normale. It was but a short time before he became a marked man in his class, especially for his intense devotion to experiment. Thanks to M. Delafosse, one of the lecturers of the École Normale, his attention was turned to crystallography, and a note from the German chemist, Mitscherlich, communicated to the Academy of Sciences, set him on fire with curiosity. Mitscherlich declared: "The paratartrate and the tartrate of soda and ammonia have the same chemical composition, the same crystalline form, the same angles, the same specific weight, the same double refraction, and the same inclination of the optic axes. Dissolved in water, their refraction is the same. But while the dissolved tartrate causes the plane of polarized light to rotate, the paratartrate exacts no such action."

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Pasteur at once instituted experiments resulting in the discovery of minute facets in the tartrate which gave it the power noted. He found in the paratartrate these facets existed, but that there was an equal admixture of right- and left-handed crystals, and the one neutralized the effect of the other. He also discovered the left-handed tartrate. These discoveries at the opening of Pasteur's career brought him at once to the front among the scientific men. He followed them with a profound investigation into the symmetry and dissymmetry of atoms, and reached the conclusion that in these lay the basic difference between inorganic and organic matter, between the absence of life and life.

Nominated at the age of thirty-two as Dean of the Faculté des Sciences, at Lille, Pasteur determined to devote a portion of his lectures to fermentation. At that time ferments were believed to be, to quote Liebig, "Nitrogenous substances—albumin, fibrin, casein; or the liquids which embrace them—milk, blood, urine—in a state of alteration which they undergo in contact with air." Pasteur examined the lactic ferment and found little rods, $\frac{1}{25000}$ inch in length, which nipped themselves in the centre, divided into two, grew to full length and divided again, and these living things he declared to be the active principles of the ferment. He made a mixture of yeast, chalk, sugar, and water, added some of the rods, and got fermentation. He then made a mixture of sugar, water, phosphate of potash, and magnesia, and introducing fresh cells, fermentation followed. Liebig's theory of the nitrogenous character of the ferment disappeared when fermentation was caused in a mixture having no nitrogenous elements.

Pasteur had discovered that fermentation was a phenomenon of nutrition; it followed the increase and growth of the little rods. The next step was the discovery of the ferment of butyric acid, a species of vibrio consisting of little rods united in chains of two or three and possessed of movement. He found these vibrios lived without air. Further experiments showed there were ferments to which air was necessary, called by Pasteur the *ærobies*, and others to whom oxygen was fatal, the *anærobies*. He proved, also, by an exhaustive series of experiments, that what is called putrefaction of animal matter is the result of the combined work of the *ærobies* and the *anærobies*, which reduce that part not taken up by oxygen to dead organic matter, ready in its turn to form food for living things.

His attention having been turned to the needs of the vinegar makers of Orleans, Pasteur began the examination of the ferment which produces vinegar from wine. He found this in the mycoderm aceto, a mould-like plant which has the power of developing acetic acid from alcohol. As the result of his investigation, the manufacturers of vinegar in France were able to do away with the cumbrous process they had long followed, and to make vinegar, not only more cheaply, but of very much better quality. But during these experiments Pasteur found the temperature of 65° C. was sufficient to kill the mycoderm. When, then, the wine makers of France appealed to him to investigate the "diseases" of wine, he was ready for the work.

Before this, however, he had examined the claims of Pouchet and others to their alleged discovery of spontaneous generation; in other words, the production of life. Ranging himself against them, Pasteur showed their experiments not to have been conclusive, simply because they had not succeeded in excluding the dust which contained germs of life in the shape of spores of microscopic plants.

The "diseases" of wine produce sour wine, wine that "spirits," "greasy" wine, and bitter wine. Pasteur found each to be due to a different microscopic ferment, all of which could be killed by heat. He placed bottles of wine in a bath heated to 60° C., and invited the most experienced wine tasters of Paris to try them afterward. The result of the test was the unanimous verdict that the wines had not been injured in the least, and to-day these "diseases" of wine are a thing of the past.

There are departments in France where the culture of the silk-worm is the principal industry of the inhabitants. In 1849 a strange disease, called pebrine, broke out among the worms; they were unable to moult and died before the cocoons were spun. It spread in the most alarming manner until, from a crop with an average of one hundred and thirty million francs a year, the production of silk went to less than fifty millions. The silk cultivators sent for eggs—seed is the technical name—to Italy and Greece, and for one season all went well. The next, the plague was as bad as ever. More than that, it spread to Italy, Spain, Greece, and Turkey, until Japan was the only silk-producing country where the worm was healthy. Societies and governments, as well as individuals, were aghast, for the silk industry of the world was on the verge of annihilation, and every remedy the mind of man could conceive was tried, only to be rejected. In France alone the loss in 1865 was over one hundred million francs.

At the suggestion of Professor Dumas, the Government induced Pasteur to examine into the "disease." He had seen in a report on the epidemic made by M. de Quatrefages, that there were found in the diseased worms certain minute corpuscles only to be seen under the microscope. When in June, 1865, Pasteur arrived in the town of Alais, he found these corpuscles without difficulty. He traced them from the worm to the chrysalid, in the cocoon, and thence to the moth; he found worms hatched from the eggs laid by these moths invariably developed the corpuscles. He crushed a corpuscular moth in water, painted a mulberry leaf with it, fed it to a healthy worm, and the corpuscles developed. He hatched eggs from moths free from corpuscles and secured healthy worms. While working on the "disease," Pasteur discovered in 1867 that the mortality among the worms was in part due to another disease, the *flacherie*, and this he found was the result of imperfect digestion.

Flacherie was contagious, and was caused by the fermentation of the food eaten in the body of the worm. The causes of this fermentation, the condition of the leaves, the temperature, and others were pointed out. As the result of five years' work, Pasteur had restored the silk industry to its former position, and had shown that the microscopic examination of the moth laying the eggs to be hatched was a perfect safeguard against *pebrine* and *flacherie*.

PASTEUR IN HIS LABORATORY

BY

ALBERT EDELFELT

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Photogravure Goupil & Cie

At the request of the emperor, Pasteur went to the Villa Vicentia, in Austria, belonging to the prince imperial. For ten years the silk harvest there had not paid the cost of the eggs.

Although he was just recovering from an attack of paralysis brought on by overwork, Pasteur travelled to Austria, introduced his methods, and the sale of the cocoons gave the villa a net profit of 26,000,000 francs. No wonder it was said of him that his discoveries alone exceeded in money value to the French people the war indemnity paid by them to the Germans.

Splenic fever, called *charbon* in France, had for years decimated the flocks in France, Italy, Russia, Egypt, Hungary, and Brazil. It attacked the horse and cow as well as the sheep, and human beings died of it when they developed malignant pustule. Many scientific men had studied it, but Dr. Davaine, in 1850, was the first to find in the blood of a sheep that had died of the disease, "little thread-like bodies about twice the length of a blood-corpuscle. These little bodies exhibit no spontaneous motion."

Pasteur began the examination of splenic fever by securing some of the blood from an animal dying from it. In the work before him he associated with himself M. Joubert, one of his former pupils. A drop of the blood sown in the water of yeast—the medium used for cultures by Pasteur at that time—produced myriads of the rods, the bacilli or microbes. A drop of this taken at the end of twenty-four hours, and placed in a fresh flask of the medium, again produced thousands of the bacilli. Pasteur found that guinea-pigs inoculated from the first flask developed the fever, and the same result followed when the inoculation was from the twentieth. He had proved, then, that splenic fever was produced by the bacilli, by living organisms only to be seen with a powerful microscope.

While working on the bacilli of splenic fever, Pasteur had isolated the bacillus of chicken cholera, had cultivated it and had inoculated chickens with it, developing the disease. He found that so long as the cultures were made from flask to flask within twenty-four hours, the virus of the disease, that is, the power of the bacilli to produce cholera in the fowls inoculated, remained the same and the fowl died. But he discovered that if a flask containing the bacilli were left exposed to the air for two weeks, and the fowls were then inoculated with bacilli from this flask, they became sick, but did not die. Following this up, he inoculated a hen that had recovered from a sickness so produced, with the bacilli in their strongest and most virulent form, and the hen showed no effect whatever. Then he took two hens, one fresh from the coop and the other well again after the sickness produced by the inoculation with the exposed bacilli, and inoculated both with the blood of a hen that was dying of chicken cholera. The first died, the second was not affected. In other words, Pasteur had made the greatest discovery in physiology of this century. He had found it is possible to attenuate the virus of a virulent disease, and to use that virus so attenuated as a vaccine matter which will guard the animal vaccinated against the disease. He had taken Jenner's discovery, and proved it applied to other diseases besides small-pox.

Pasteur's theory of the reason why any vaccine matter will have its prophylac-

tic effect, is this: He believes there is in the blood of any animal subject to a disease caused by bacilli some substance which is necessary to the sustenance of those bacilli; and when the bacilli, having an attenuated virus, are introduced, they slowly consume all of this substance.

The substance being one which nature creates very slowly, no subsequent introduction of the bacilli, however virulent, can produce the disease until such time shall have elapsed that a new supply of the substance shall have been secreted. In this way he accounts for the fact that vaccination will protect from small-pox for a more or less defined period of time.

Pasteur hastened to apply his discovery of the attenuation of the virus of chicken cholera to the virus of splenic fever. Here, however, he was met with a serious difficulty. The microbes of splenic fever, if left in the flask for forty-eight hours, developed bright spots, and gradually into these spots the bacilli themselves seemed to be absorbed. Pasteur found these spots were the spores or seeds of the microbes, and he also found that, while the bacilli could be killed easily in various ways, the spores possessed a much greater resistance. They could be dried, for example, and preserved in that state indefinitely. It was apparent that the oxygenation which attenuated the venom of the bacilli of chicken cholera was impossible with those of splenic fever if the bacilli of the latter disappeared within a week, leaving the spores behind. But Pasteur had discovered before this that, unless the temperature of a fowl were lowered artificially, inoculation with the microbes of splenic fever would not produce the disease. From this he argued that, as the heat of the fowl's body was sufficient to resist the contagion, the bacilli themselves must be extremely sensitive to variations in temperature. He tried the experiment and found, by lowering the temperature of the flasks containing the cultures, he could prevent the formation of the spores. He then attenuated the venom of the splenic bacilli as he had that of the fowl cholera, tried it on guinea-pigs, found they became sick and recovered; inoculated them with the bacilli of full strength, but with no result. Pursuing his experiments, he discovered that he could by using vaccine-attenuated bacilli, of unequal strength, cause any degree of sickness he pleased.

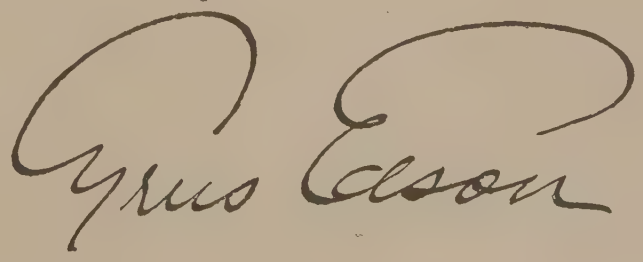
In the early part of 1881 Pasteur agreed to hold a public exhibition of his vaccine for splenic fever, the animals to be supplied by the Society of Agriculture in Melun. The experiment was begun on May 5th. Pasteur inoculated twenty-four sheep, one goat, and six cows with six drops each of attenuated virus, and twelve days afterward he reinoculated them with a stronger virus. On May 31st he reinoculated the thirty-one animals with the strongest virus of splenic fever, and at the same time inoculated twenty-five sheep and four cows which had not been vaccinated as were the others. On June 2d over two hundred people assembled at the farm to see the result. The twenty-five sheep that had not been vaccinated all died before that evening. The non-vaccinated cows had intense fever and great swellings, and could scarcely stand up. On the other hand, the vaccinated sheep and cows were in full health and were feeding quietly. Pasteur had conquered splenic fever.

Having attenuated the virus of these bacilli, Pasteur began a series of experiments to determine whether the attenuated virus could be intensified until its former venom was obtained. This he succeeded in, and thus discovered what is probably the key to the solution of the problem of the periodicity of epidemics of contagious diseases, such as cholera. In 1882 Pasteur's attention was called to a new disease, swine fever (*rouget*), which was ravaging the herds of swine in France. He found the microbes, attenuated them, vaccinated the pigs, and secured the most favorable results. He also discovered that by passing the microbe of a disease through an animal not subject to that disease, he attenuated it so far as its effects on another were concerned.

It was in 1880 that Pasteur first began his experiments in hydrophobia. Securing the saliva of a child suffering from the disease, he inoculated rabbits with it and they died in thirty-six hours. He examined the saliva and the blood of the rabbits, and found in both a new microbe (a minute disk having two points). He established by repeated experiments that hydrophobia is a disease of the nerves, that a portion of the medulla oblongata, or of the spinal cord, is very much more certain to produce the disease, when introduced into the blood or placed on the brain, than is the saliva. He succeeded at last in isolating the microbe, in making cultures of it, and then attenuating it, and in May, 1884, he produced before a commission appointed by the Minister of Public Instruction the following results :

Of six dogs unprotected by vaccination, three died as the results of bites of a dog violently mad. Of eight unvaccinated dogs, six died after extra-venous inoculation of rabic matter. Of five unvaccinated dogs, all died after inoculation, by trepanning, of the brain with rabic matter. Of twenty-three vaccinated dogs, not one was attacked with the disease after inoculation, in any fashion, with the most virulent rabic matter procurable.

During his long and busy life Louis Pasteur has been honored after every fashion known to men. He has opened the gates of knowledge wider than they were ever opened before, and in his discovery of the germs of disease, and in his still more wonderful discovery of the possibility of attenuating those germs and converting them into vaccines, he has revolutionized all ideas of physiology. He is one of the greatest pioneers in science that has ever lived, and his work will make his name illustrious so long as men shall continue on this earth. The lesson of his life is the supreme value of experiment; for, as was once said of him by Professor Dumas, "Pasteur is never mistaken, because he never asserts anything he cannot show another man how to prove."



GENERAL CHARLES GEORGE GORDON

By Colonel R. H. Veitch, R.E.

1833–1885

Charles George Gordon, known as Chinese Gordon, major-general, C.B., royal engineers, fourth son of Lieutenant-general Henry William Gordon, royal artillery, and Elizabeth, daughter of Samuel Enderby, of Croom's Hill, Blackheath, was born at Woolwich on January 28, 1833. He was sent to school at Taunton in 1843, and entered the Royal Military Academy at Woolwich in 1848. He obtained a commission in the royal engineers on June 23, 1852, and, after the usual course of study at Chatham was quartered for a short time at Pembroke Dock. In December, 1854, he received his orders for the Crimea, and reached Balaklava on January 1, 1855. As a young engineer subaltern serving in the trenches, his daring was conspicuous, while his special aptitude for obtaining a personal knowledge of the movements of the enemy was a matter of common observation among his brother officers. He was wounded on June 6, 1855, and was present at the attack on the Redan on June 18th. On the surrender of Sebastopol Gordon accompanied the expedition to Kinburn, and on his return was employed on the demolition of the Sebastopol docks. For his services in the Crimea Gordon received the British war medal and clasp, the Turkish war medal, and the French Legion of Honor.

In May, 1856, in company with lieutenant (now major-general) E. R. James, R.E., he joined Colonel (now General Sir) E. Stanton, R.E., in Bessarabia, as assistant commissioner for the delimitation of the new frontier line. This duty was completed in April, 1857, and he was then sent with Lieutenant James in a similar capacity to Erzeroum, where Colonel (now General Sir) Lintorn Simmons was the English commissioner for the Asiatic frontier boundary. The work was accomplished by the following October, when Gordon returned to England. In the spring of 1858 he and Lieutenant James were sent as commissioners to the Armenian frontier to superintend the erection of the boundary posts of the line they had previously surveyed. This was finished in November,

and Gordon returned home, having acquired an intimate knowledge of the people of the districts visited.

On April 1, 1859, Gordon was promoted captain, and about the same time appointed second adjutant of the corps at Chatham, a post he held for little more than a year, for, in the summer of 1860, he joined the forces of Sir James Hope Grant, operating with the French against China. He overtook the allied army at Tientsin, and was present in October at the capture of Pekin and the pillage and destruction of the emperor's summer palace. For his services in this campaign he received the British war medal with clasp for Pekin and a brevet majority in December, 1862. Gordon commanded the royal engineers at Tientsin, when the British forces remained there under Sir Charles Staveley, and while thus employed made several expeditions into the interior, in one of which he explored a considerable section of the great wall of China. In April, 1862, he was summoned to Shanghai to assist in the operations consequent upon the determination of Sir Charles Staveley to keep a radius of thirty miles round the city clear of the rebel Taipings. Gordon took part as commanding royal engineer, in the storming of Sing-poo and several other fortified towns and in clearing the rebels out of Kah-ding. He was afterward employed in surveying the country round Shanghai.

The Taiping rebellion was of so barbarous a nature that its suppression had become necessary in the interest of civilization. A force raised at the expense of the Shanghai merchants, and supported by the Chinese Government, had been for some years struggling against its prowess. This force, known as the "Ever Victorious Army," was defeated at Taitsan, February 22, 1863. Li Hung Chang, governor-general of the Kiang provinces, then applied to the British commander-in-chief for the services of an English officer, and Gordon was authorized to accept the command. He arrived at Sung Kiong and entered on his new duties as a mandarin and lieutenant-colonel in the Chinese service on March 24, 1863. His force was composed of some three to four thousand Chinese, officered by 150 Europeans of almost every nationality and often of doubtful character. By the indomitable will of its commander this heterogeneous body was moulded into a little army, whose high-sounding title of "Ever Victorious" became a reality, and in less than two years, after thirty-three engagements, the power of the Taipings was completely broken and the rebellion stamped out. The maintenance of discipline was a perpetual struggle, and at one time there was a mutiny which was only quelled by shooting the ringleader on the spot. Before the summer of 1863 was over, Gordon captured Kahpoo, Wokong, and Patachiaow, on the south of Soo-chow, the great rebel stronghold, and, sweeping round to the north, secured Leeku, Wanti, and Fusaiqwan, so that by October Soo-chow was completely invested. On November 29th the outworks were captured by assault and the city surrendered on December 6th. Gordon was always in front in all these storming parties, carrying no other weapon than a little cane. His men called it his "magic wand," regarding it as a charm that protected his life and led them on to victory.

When Soo-chow fell, Gordon had stipulated with the governor-general, Li, for the lives of the Wangs (rebel leaders). They were treacherously murdered by Li's orders. Indignant at this perfidy, Gordon refused to serve any longer with Governor Li, and when on January 1, 1864, money and rewards were heaped upon him by the emperor, declined them all, saying that he received the approbation of the emperor with every gratification, but regretted most sincerely that, "owing to the circumstances which occurred since the capture of Soo-chow, he was unable to receive any mark of his majesty the emperor's recognition."

After some months of inaction it became evident that if Gordon did not again take the field the Taipings would regain the rescued country. On the urgent representations of the British envoy at Pekin, Governor Li was compelled to issue a proclamation exonerating Gordon from all complicity in the murder of the Wangs. Gordon then reluctantly consented to continue his services, on the distinct understanding that in any future capitulation he should not be interfered with. In December, 1863, a fresh campaign was commenced, and during the following months no fewer than seven towns were captured or surrendered. In February, 1864, Yesing and Liyang were taken, but at Kintang Gordon met with a reverse and was himself wounded for the first time. He nevertheless continued to give his orders until he had to be carried to his boat. After some other mishaps he carried Chan-chu-fu by assault on April 27th. The garrison consisted of 20,000 men, of whom 1,500 were killed. This victory not only ended the campaign but completely destroyed the rebellion, and the Chinese regular forces were enabled to occupy Nankin in the July following. The large money present offered to Gordon by the emperor was again declined, although he had spent his pay promoting the efficiency of his force, so that he wrote home, "I shall leave China as poor as when I entered it." The emperor, however, bestowed upon him the yellow jacket and peacock's feather of a mandarin of the first class, with the title of Ti-Tu, the highest military rank in China, and a gold medal of distinction of the first class. The merchants of Shanghai presented him with an address expressing their admiration of his conduct of the war.

On his return home, in the beginning of 1865, he was made a C.B., having previously received his brevet as lieutenant-colonel in February, 1864. In September, 1865, he was appointed commanding royal engineer at Gravesend, and for the next six years carried out the ordinary duties of the corps, superintending the construction of the forts for the defence of the Thames. During this quiet and uneventful period of routine work he devoted his spare time to the poor and sick of the neighborhood, stinting himself that he might have larger means wherewith to relieve others. He took special interest in the infirmary and the ragged schools. He took many of the boys from the schools into his own house, starting them in life by sending them to sea, and he continued to watch the future progress of his kings, as he called them, with never-failing sympathy.

In October, 1871, Gordon was appointed British member of the international commission at Galatz for the improvement of the navigation of the Sulina mouth

of the Danube, in accordance with the Treaty of Paris. During his tenure of this office he accompanied General Sir John Adye to the Crimea to report on the British cemeteries there. On his way back to Galatz, in November, 1872, he met Nubar Pasha at Constantinople, who sounded him as to his succeeding Sir Samuel Baker in the Soudan. The following year Gordon visited Cairo on his way home, and on the resignation of Sir Samuel Baker was appointed governor of the equatorial provinces of Central Africa, with a salary of £10,000 a year. He declined to receive more than £2,000.

Gordon went to Egypt in the beginning of 1874, and left Cairo in February for Gondokoro, the seat of his government, travelling by the Suez-Swakin-Berber route. He reached Khartoum on March 13th, stopped only a few days to issue a proclamation and make arrangements for men and supplies, then, continuing his journey, arrived at Gondokoro on April 16th. The garrison of Gondokoro at this time did not dare to move out of the place except in armed bands; but in the course of a year the confidence of the natives had been gained, the country made safe, eight stations formed and garrisoned, the government monopoly of ivory enforced, and sufficient money sent to Cairo to pay all the expenses of the expedition. At the close of the year, having already lost by sickness eight members of his small European staff, Gordon transferred the seat of government from the unhealthy station, Gondokoro, to Laido. By the end of 1875 Gondokoro and Duffh had been joined by a chain of fortified posts, a day's journey apart, the slave-dealers had been dispersed, and a letter post organized to travel regularly between Cairo and the verge of the Albert Nyanza, over two thousand miles as the crow flies.

Gordon had also visited Magungo, Murchison Falls, and Chibero, with a view to a further line of fortified posts, and he established for the first time, by personal observation, the course of the Victoria Nile into Lake Albert. Although he had accomplished a great work since his arrival, his efforts to put down the slave trade were thwarted by Ismail Pasha Yacoub, governor-general of the Soudan, and were likely to prove abortive so long as the Soudan remained a distinct government from that of the equatorial provinces. He, therefore, at the end of 1876, resigned his appointment and returned to England. Strong pressure was put upon him by the khédive to return, and on January 31, 1877, he left for Cairo, where he received the combined appointment of governor-general of the Soudan, Darfour, the equatorial provinces, and the Red Sea littoral, on the understanding that his efforts were to be directed to the improvement of the means of communication and the absolute suppression of the slave trade. Gordon first visited Abyssinia, where Walad el Michael was giving a great deal of trouble on the Egyptian frontier. He settled the difficulty for a time and travelled across country to Khartoum, where he was installed as governor-general, May 5th. After a short stay there he hastened to Darfour, which was in revolt; with a small force and rapid movements he quelled the rising, and, by the humane consideration he showed for the suffering people, won their confidence and pacified the province. Before this work was completely accomplished his attention

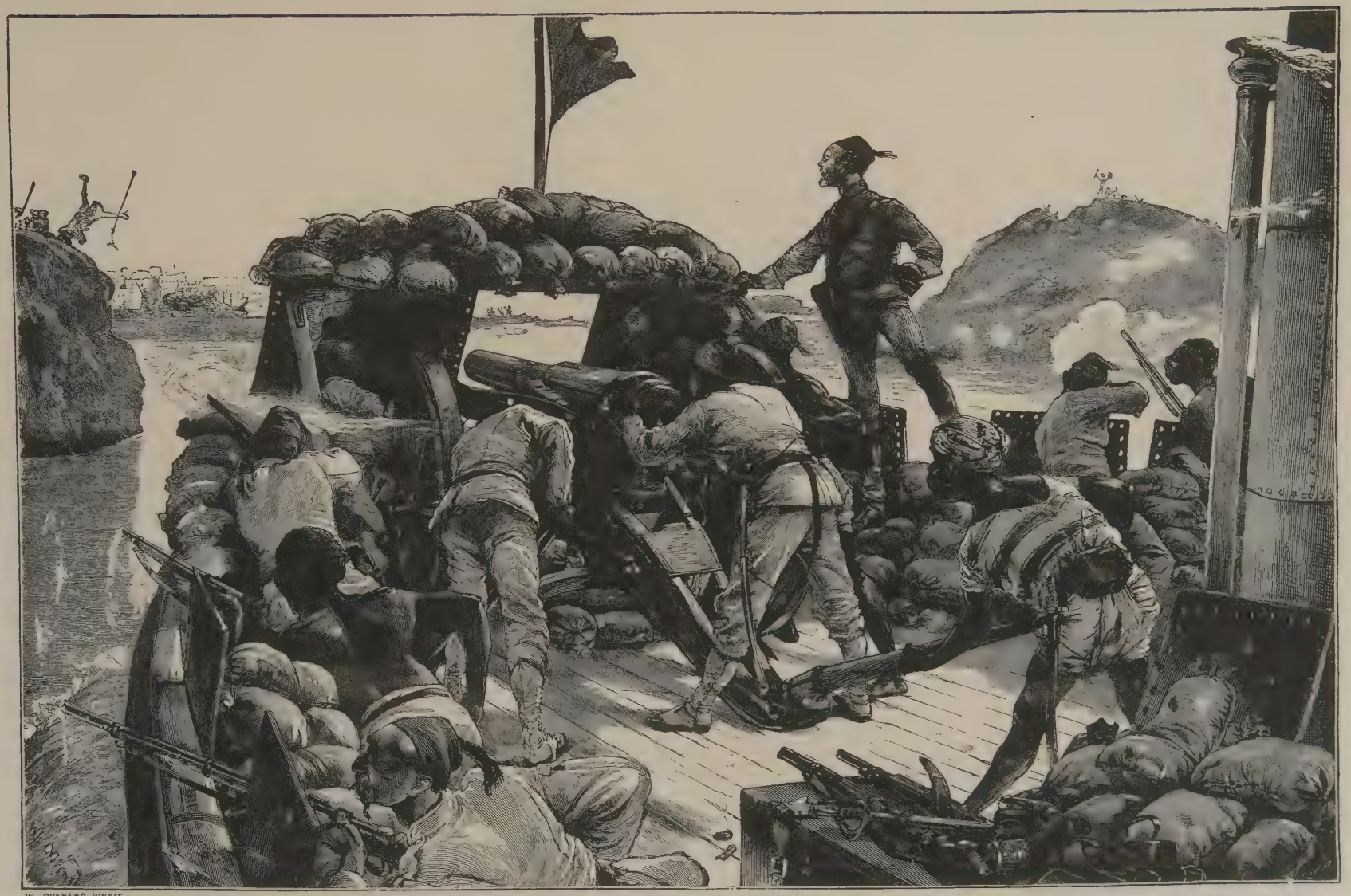
was called away by the slave-dealers, who, headed by Suleiman, son of the notorious Zebehr, with 6,000 armed men, had moved on Dara from their stronghold, Shaka. Gordon left Fischer on August 31, 1877, with a small escort, which he soon outstripped, and in a day and a half, having covered eighty-five miles on a camel, entered Dara alone, to the surprise of its small garrison. The following morning, attended by a small escort, he rode into the rebel camp, upbraided Suleiman with his disloyalty, and announced his intention to disarm the band and break them up. Gordon's fearless bearing and strong will secured his object, and Suleiman returned with his men to Shaka.

They rose again; and Gordon's Italian aide, Gessi, after a year's marching and fighting, succeeded in capturing Suleiman, and some of the chief slave-dealers with him. They were tried as rebels and shot. The suppression of the slave trade had thus been practically accomplished when on July 1st news arrived of the deposition of Ismail and the succession of Tewfik, which determined Gordon to resign his appointment. On arriving at Cairo, the khédive induced him first to undertake a mission to Abyssinia to prevent, if possible, an impending war with that country. Gordon went, saw King John, at Debra Tabor, but could arrive at no satisfactory understanding with him, and was abruptly dismissed. On his way to Kassala he was made prisoner to King John's men and carried to Garramudhiri, where he was left to find his way with his little party over the snowy mountains to the Red Sea. He reached Massowah on December 8, 1879, and on his return to Cairo, the khédive accepted his resignation. He arrived in England early in January, 1880. During his service under the khédive, Gordon received both the second- and first-class of the order of the Medjidieh.

His constitution was so much impaired by his sojournings in so deadly a climate that his medical advisers sent him to Switzerland to recruit. He returned to England, in April, 1880, and in the following month accompanied the Marquis of Ripon, the new Viceroy of India, to that country as his private secretary. He resigned almost immediately, and was invited to China to advise the Chinese Government in connection with their then strained relations with Russia. Gordon accepted at once, and although difficulties were raised by the home authorities, he reached Hongkong on July 2d, and went on by Shanghai and Chefoo to Tientsin to meet his old friend, Li Hung Chang, who, with Prince Kung, headed the peace party. From Tientsin, Gordon went to Pekin, and his wise and disinterested counsels in favor of peace at length carried the day.

In 1881 he went to Mauritius as commanding royal engineer, and while there was promoted major-general. In 1882, he was at the Cape Colony, endeavoring to arrange a peace with the natives of Basutoland; but he failed, largely through the treachery of the Cape officials.

The success of the Mahdi in the Soudan and the catastrophe to Hicks Pasha, in November, 1883, had induced the British Government, not only to decline any military assistance to enable the Egyptian Government to hold the Soudan, but to insist upon its abandonment by the khédive. To do this it was necessary to bring away the garrisons scattered all over the country, and such of the Egyptian



W. OVEREND PINXIT.

GORDON ATTACKED BY EL MAHDI'S ARABS.

population as might object to remain. To Gordon was intrusted the withdrawal of the garrisons and the evacuation of the Soudan. At Cairo his functions were considerably extended. He was appointed, with the consent of the British Government, governor-general of the Soudan, and was instructed, not only to effect the evacuation of the country, but to take steps to leave behind an organized independent government.

By the month of March, having succeeded in sending some two thousand five hundred people down the Nile into safety, Gordon found himself getting hemmed in by the Mahdi and no assistance coming from without. On April 16, 1884, his last telegram before the wires were cut complained bitterly of the neglect of the Government. The attack of Khartoum began on March 12th, and from that time to its fall Gordon carried on the defence with consummate skill. His resources were small, his troops few, and his European assistants could be counted on the fingers of one hand; yet he managed to convert his river steamers into ironclads, to build new ones, to make and lay down land mines, to place wire entanglements, and to execute frequent sorties, while he kept up the spirits and courage of his followers by striking medals in honor of their bravery, and baffled a fanatic and determined foe for over ten months, during the latter part of which the people who trusted him were perishing from disease and famine, and the grip of the enemy was tightening.

In April the necessity of a relief expedition was pressed upon the Government at home, but without avail. In May popular feeling found vent, not only in public meetings but in the House of Commons, when a vote of censure on the Government was lost by only twenty-eight votes. Eventually, proposals were made to send a relief expedition from Cairo in the autumn, and on August 5th a vote of credit for £300,000 was taken for "operations for the relief of General Gordon, should it become necessary, and to make certain preparations in respect thereof." Even when it was decided that Lord Wolseley should take command of a relief expedition up the Nile, hesitation continued to mark the proceedings of the Government, and time, so valuable on account of the rising of the Nile, was lost. It was September 1st before Lord Wolseley was able to leave England. Then everything was done, but the delay had been fatal.

In September, 1884, having driven the rebels out of Berber, Gordon authorized his companions, Colonel Stewart and Frank Power (*Times* correspondent), to go down the river in the steamer Abbas to open communication with Dongola. The steamer struck on a rock, and they were both treacherously murdered. Gordon was now the only Englishman in Khartoum. On December 20th, Lord Wolseley launched Sir Herbert Stewart's expedition from Korti across the desert to Metemmeh, where, after two severe engagements, it arrived on January 20, 1885, under command of Sir Charles Wilson, Stewart having been mortally wounded. In order to succor the advancing force, Gordon had deprived himself for three months of five out of his seven steamers. These five steamers, fully armed, equipped, and provisioned, were in waiting, and in them were his diaries and letters up to December 14th. On that date he wrote to Major Wat-

son, R.E., at Cairo, that he thought the game was up, and a catastrophe might be expected in ten days' time, and sent his adieux to all. On the same day he wrote to his sister: "I am quite happy, thank God, and like Lawrence, I have tried to do my duty." His diary ended on the same day with: "I have done the best for the honor of my country. Good-by." It was necessary for the safety of his troops that Wilson should first make a reconnoissance down the river toward Berber before going to Khartoum, and when he started up the river, on January 24th, the difficulties of navigation were so great that it was midday on the 28th before the goal was reached, and then only to find it in the hands of the Mahdi, Khartoum having fallen early on the 26th, after a siege of 317 days.

From the most accurate information since obtained, it appears that the garrison, early in January, had been reduced to great straits for want of food, and great numbers of the inhabitants had availed themselves of Gordon's permission to join the Mahdi. Omdurman, opposite to Khartoum, on the west bank of the river, fell about January 13th, and about the 18th a sortie was made, in which some serious fighting took place. The state of the garrison then grew desperate. Gordon continually visited the posts by night as well as day, and encouraged the famished garrison. The news of Sir Herbert Stewart's expedition, and the successful engagements it had fought on the way to Metemmeh, determined the Mahdi to storm Khartoum before reinforcements could arrive for its relief. The attack was made on the south front at 3.30 A.M., on Monday, January 26, 1885. The defence was half-hearted, treachery was at work, and Gordon received no tidings of the assault. The rebels made good their entrance, and then a general massacre ensued. The accounts of Gordon's death are confused and conflicting, but they all agree in stating that he was killed near the gate of the palace, and his head carried to the Mahdi's camp.

Intelligence of the catastrophe reached England on Thursday, February 5th. The outburst of popular grief, not only in this country and her colonies, but also among foreign nations, has hardly been paralleled. It was universally acknowledged that the world had lost a hero. Friday, March 13th, was then observed as a day of national mourning, and special services were held in the cathedrals and in many churches of the land, those at Westminster Abbey and St. Paul's being attended by the royal family, members of both houses of parliament, and representatives of the naval and military services. Parliament voted a national monument to be placed in Trafalgar Square, and a sum of £20,000 to his relatives. More general expression was given to the people's admiration of Gordon's character by the institution of the "Gordon Boys' Home" for homeless and destitute boys. Gordon's sister presented to the town of Southampton her brother's library, in March, 1889.

Gordon's character was unique. Simple-minded, modest, and almost morbidly retiring, he was fearless and outspoken when occasion required. Strong in will and prompt in action, with a naturally hot temper, he was yet forgiving to a fault. Somewhat brusque in manner, his disposition was singularly sympathetic and attractive, winning all hearts. Weakness and suffering at once en-

listed his interest. Caring nothing for what was said of him, he was indifferent to praise or reward, and had a supreme contempt for money. His whole being was dominated by a Christian faith, at once so real and so earnest that, although his religious views were tinged with mysticism, the object of his life was the entire surrender of himself to work out whatever he believed to be the will of God.

GENERAL GEORGE A. CUSTER*

By Elbridge S. Brooks

(1839–1876)

DARING is always popular. The dashing fighter outranks the tactician and takes precedence over the engineer when the people's plaudits for valor fill the air. To be the *beau sabreur* of the army, as was Murat, in Napoleon's day, and as Custer was in Grant's, is as glorious as it is dramatic, as inspiring as it is picturesque. There were, in fact, many points of resemblance between these two dashing cavalry leaders—Murat, the Frenchman, and Custer, the American. Both smelled powder as the aides-de-camp of their chiefs; both rose rapidly from grade to grade, and from rank to rank, until they stood at the top; both labored at the end under the burden of criticism and detraction; and both met their death through a mistake, and fell like brave and gallant soldiers.

George Armstrong Custer was born at New Rumley, in the State of Ohio, on December 5, 1839. His father was a blacksmith and farmer, of German stock, a descendant of a Hessian officer named Küstu—one among many who came to conquer and remained to live and die as citizens of the land they had failed to subjugate.

Young Custer was educated in the district school of New Rumley, and in the academy at Monroe, in Michigan, where he went in 1849 to live with his sister Lydia. Returning to Ohio he taught school for a year or more in Hopedale, near New Rumley, and in 1857 was able to see his boyish dream come true, and, as a lad of seventeen, enter the United States Military Academy at West Point.

Cadet Custer graduated from West Point in 1861, and hurried to the front at once, eager for service, for the war between the States had begun. He was made bearer of despatches by General Scott; he fought at Bull Run as lieutenant in the Second United States Cavalry, to which he had been assigned; he conducted successfully balloon reconnoissance along the Confederate lines, and so inspired General McClellan by his energy, courage, and persistence that he was appointed aide-de-camp to the general, with the rank of captain.

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For his dash and daring in the Rappahannock battles he was advanced by speedy promotions to the rank of brigadier-general of volunteers, his commission dating from June, 1863, just one year after his appointment as aide-de-camp to McClellan. He won his brevet as major in the regular army for his brilliant leadership of cavalry at Gettysburg; he had a horse shot under him while heading the charge at Culpepper, and gained his brevet as lieutenant-colonel of regulars for his gallantry in Sheridan's fights about Richmond, in the spring of 1864. He won renown and glory in Sheridan's famous raid on Richmond, by saving his brigade-colors at the battle of Trevillion Station, and, in September, 1864, his dashing valor at Winchester procured him his brevet as colonel of regulars and the volunteer rank of major-general. He won the battle of Woodstock by a wonderful cavalry engagement, routing the enemy, whom he drove for twenty-six miles, and capturing all their guns save one. In the bloody battle of Cedar Creek he fought at the head of the Third Division of Cavalry from start to finish, helping to turn a rout into a victory and recapturing all the guns and colors the Union troops had lost early in the action, besides taking all the Confederate flags and cannon. At Waynesboro, in the spring of 1865, still leading the Third Division, he won the day unaided; he captured 1,600 prisoners, with all the enemy's camp equipage, guns, and colors, and then turning for another onset, Custer drove the Confederate General Early from the field, destroying his command, scattering his army, and ending the campaign, so far as Early's army was concerned. For this brilliant engagement, and for his bravery at the battles of Five Forks and Dinwiddie Court-House, on April 1, 1865, Custer was brevetted brigadier-general in the regular army; and, as he had won the first colors taken by the Army of the Potomac in 1862, so, in 1865, he received the first flag of truce from Lee's army when the end at last came, and was present at the historic surrender at Appomattox. Then he secured his last promotion. He was brevetted major-general in the regular army and appointed major-general of volunteers.

It was a brilliant and exceptional record. He had fought in all the battles of the Army of the Potomac save one. He was Sheridan's most trusted and favorite cavalry officer. In less than four years he had advanced from captain of volunteers to major-general, and from lieutenant to major-general in the regular army. He was but twenty-six when the war closed, and all his promotions had been won by his bravery, his dash, his daring, and his good leadership. During the last six months of the war the Third Division of Cavalry, led by Custer, captured in open fight over one hundred pieces of artillery, sixty-five battle flags, and ten thousand prisoners. It was a record of which any soldier might be proud, and it made Custer at once the idol of his hard-riding troopers, and one of the popular heroes of the day. At the great review in Washington he rode near the head of the parade, leading what was popularly called "the most gallant cavalry division of the age," greeted with cheers and flowers along the line of march.

Custer's active service did not close with the war. He was sent to Texas as commander of a cavalry division, and in November, 1865, was made chief of cav-

alry. In February, 1866, he was mustered out of service as major-general of volunteers and became again captain in the regular army, "on leave." President Johnson denied him the leave of absence he asked for to fight under Juarez in Mexico against Maximilian, the usurper, and in July, 1866, he received his commission as lieutenant-colonel of the newly formed Seventh Cavalry, United States Army—the regiment that he made into Indian fighters and served with until the end. In November, 1866, he joined his regiment at Fort Riley, and was soon fighting Indians on the plains. He utterly defeated the hostile Cheyennes, Arapahoes, and Kiowas at the battle of the Washita, in the Indian Territory, in November, 1871; he was on post duty in Kentucky until 1873, and then again on the plains, where, on August 4, 1873, he whipped the hostile Sioux at the battle of Tongue River, in the Yellowstone country, and again, on the 11th of the same month, at the battle of the Big Horn. In the summer of 1874 he led an expedition of exploration and discovery into the Black Hills, in the Dakota country, and in May, 1876, led his regiment in what proved to be his last campaign, a march against the hostile Sioux in the unexplored region of the Little Big Horn. Here, with less than three hundred men, he faced the confederated Sioux, numbering thousands of warriors, and in a desperate and characteristic engagement closed the record of a life of brilliant effort and daring by standing at bay, against the tremendous odds of ten to one, until he and his entire command fell to a man, fighting desperately to the end.

Custer was gallant, but sometimes indiscreet; he was daring, but often careless of consequences; and when in positions of command he was apt to be impatient of cowardice and of greed. So he raised up enemies for himself, and twice these enemies sought and nearly accomplished his downfall. His last campaign was fought under the burden of an apparent official censure, galling to a man of Custer's impetuous nature, all the more so as he knew it to be unmerited and unjust. There is little doubt that this weight of wrong engendered a spirit of recklessness, foreign even to his daring nature, and led him to take risks he would not otherwise have accepted, simply because he felt the necessity for action and believed that through valor would come his speediest vindication. Had he been supported by those he relied upon he might, even in the face of the overpowering odds marshalled against him, have come off victorious, instead of dying, an unnecessary sacrifice, like another Roland, and, if we accept the legends, at just Roland's age. It is because that tragic ending of a valiant life was, viewed from the picturesque stand-point, its logical and dramatic conclusion, that American tradition and popular applause will, in the years to come, remember Custer, not so much for the dash at Winchester, the daring at Waynesboro, or the valor at Five Forks, as for his immortal last stand on the banks of the Little Big Horn, when he and his brave troopers went down in death together.

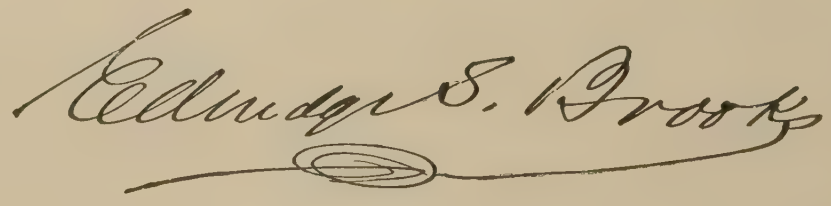
General Custer was the born soldier in face and figure. Lithe, broad-shouldered, and sinewy in frame, nearly six feet in height, blue-eyed and golden-haired, he was the beau ideal cavalry leader—alert, active, ready, and responsive, with an eye to all details, a love for the picturesque in bearing and equipment, of great

endurance, abstemious, healthy, and strong, and as much at home in the saddle and with the sabre as in his own little house in Monroe or by his blazing camp-fire. He married, in February, 1864, Elizabeth Bacon, a daughter of Judge Daniel S. Bacon, of Monroe. For ten years his wife was his constant companion in camp and in frontier service, and she has written many sketches of his active life in the saddle and his characteristics as soldier and as man.

General Custer, at the time of his death, was engaged on a series of "War Memoirs," and his articles on frontier life and army experiences found ready acceptance and wide favor. He was, undoubtedly, America's best cavalry leader, and won a place as "a perfect general of horse" beside the world's dashing war-riders—from Hannibal's "Thunderbolt," Mago the Carthaginian, to Maurice of Nassau and the "Golden Eagle," Murat the Frenchman.

Fourteen of the thirty-seven years he lived were spent in actual service in the camp or on the battle-field. He was a brigadier-general at twenty-three and a major-general at twenty-five. In the height of his popularity and his phenomenal success as a cavalry leader, he was a picturesque and familiar figure to friend and foe alike, as in his broad cavalier's hat, his gold-bedizened jacket, and high cavalry boots, with his long hair streaming in the wind, he would ride like a tornado, to the accompaniment of "Garry Owen," his favorite battle-air, carrying all before him—a subject worthy the pencil of a Vandyke, the very type of the dashing trooper of romance. But that there was a method in his dash and a practical element in his daring, even the generals he outranked and the civilians who tried to direct him would admit, and to be the choice of McClellan and the favorite of Sheridan gave the assurance of worth to his leadership and of value to his valor.

In 1877 Custer's remains were removed to the graveyard at West Point from the battle-field of the Little Big Horn, where he had first been buried amid the fallen heroes of his own brave band. In 1879 the Government made the battle-ground where Custer met his death a national cemetery, and raised a monument, upon which appeared the names and rank of all those who fell in that needless and fatal, but heroic, fight.



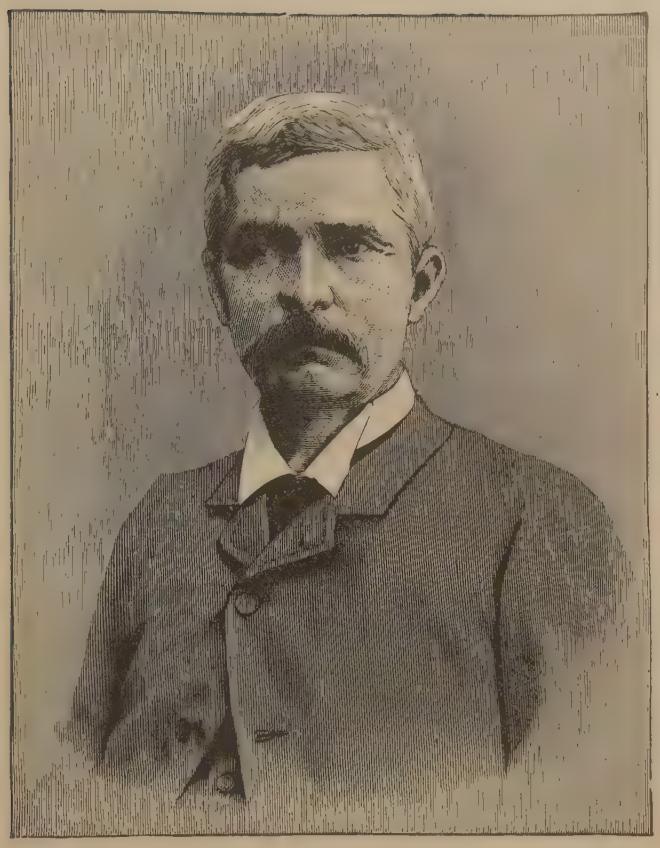
A. R. WARD PINXIT.

CUSTER'S LAST FIGHT.

HENRY M. STANLEY*

By Noah Brooks

(born 1841)



Two white men, one from America and the other from England, met in the heart of Equatorial Africa, on the shores of Lake Tanganyika, November 10, 1871. This was their first meeting. The Englishman had been lost to the outside world for more than two years, and the American had been looking for him since the early part of 1871. Finally, after many great difficulties and perils, the American found the lost explorer, surrounded by his black guards, friends, and companions. They had dimly heard of each other through the vague rumors of the natives for months past, and now meeting face to face, the American lifting his cap, said, "Dr. Livingstone, I presume." The Englishman nodded an affirmative reply, and the other said, "I am Henry M. Stanley."

It was in this simple yet dramatic way that two of the most famous African travellers of modern times met in the heart of the Dark Continent. Quite as dramatic, perhaps, was the departure of Stanley in pursuit of Livingstone. Stanley was not widely known previous to his expedition to Africa in search of Livingstone. He had served as a war correspondent of one of the great New York newspapers for several years, and was known to his craft as a faithful, accurate, and courageous newspaper correspondent. He had dared many dangers, and had encountered and overcome obstacles that would have dismayed a less intrepid soul. In 1868 he served the *New York Herald* as correspondent during the war in Abyssinia which raged between the British and King Theodore. It was here he got his first taste of African adventure. It was not a long war. The British shut up King Theodore in the fortress of Magdala, where he perished miserably

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by his own hand in the flames of his burning citadel. Thence Stanley went to Spain, where a great civil war had broken out, and he witnessed the sacking of cities, the prosecution of sieges, and battles large and small innumerable.

This war over, in the autumn of 1869, the civilized world was wondering whether Dr. Livingstone, the African missionary and explorer, were dead or alive. Dr. Livingstone, who was of Scottish birth and was in the service of the London Missionary Society, had been long laboring in South Africa, a country of which the outer world then knew but very little. Along the coast here and there were points occupied temporarily by white traders and travellers, but the interior of the Dark Continent was known only through the tales of the slave-catchers, who brought to the coast the black people they had gathered like so many cattle in the interior. Dr. Livingstone was doing what he could to spread the light of the Christian religion through those benighted regions. His first departure into the interior of Africa was from Cape Town, in 1840, and for more than thirty-three years he spent his life in the arduous work to which he had consecrated himself. In 1858 he had returned to England and published a book, giving an account of his missionary labors and his discoveries, and, liberally provided with means, he returned to Africa to carry on his work. He was accompanied by his wife, who died in the interior of Africa in 1862. In 1863 he returned to England and published a second book, giving some further account of his explorations.

Again, in 1865, he returned to Africa, and for more than a year no word came from him, but there ran a rumor that he had been killed by the savages. Early in 1869, however, letters from Dr. Livingstone, written a year before, were received on the coast, showing that he was alive and well. He had travelled many thousands of miles, being the first white man that had ever penetrated those dark and mysterious regions in the heart of Africa. But now, in the autumn of 1869, more than twenty months had passed since any word of his had come out of the darkness, and the world was ready to believe that the faithful missionary and explorer had dared his fate too often, and had died in the jungles of Africa.

It was at this time that Stanley, resting after a long and arduous campaign in Spain, received from James Gordon Bennett, who was then in Paris, a telegram summoning him to an interview in that city. Arriving at the French capital early in the morning, Stanley went straight to Mr. Bennett's lodgings, before that gentleman had risen from his bed. In answer to his knock a voice commanded him to enter. The two men had not met in many years. Stanley was bronzed and aged by sun and storm, and Bennett, surprised, abruptly asked, "Who are you?"

"I am Stanley, and I have come to answer your message," was the reply.

Bennett motioned Stanley to a seat, and after a moment's pause, asked:

"Will you go to Africa and find Livingstone?"

Stanley was startled. For a moment he reflected; then he replied, "I will; and before he left the room his agreement with Bennett was practically con-

cluded, and some of the larger details of the expedition were mapped out, and Stanley left the hotel clothed with a commission to find Livingstone, and promised all needed funds for expenses and for the relief of the great African explorer, should he be in need, as it was expected he would be found, if at all.

Stanley first went to the east coast of Africa, where he arrived in the early part of 1871. Months were consumed at Zanzibar in making ready the expedition with which he was to penetrate into the interior. Several caravans or trains were despatched, one after the other, loaded with ammunition, arms, provisions, and the necessaries of life, and with a large supply of goods with which to purchase a right of way through hostile or unfriendly kingdoms and states.

Bringing up the rear of these various trains, Stanley and his armed force left the coast of Africa, March 21, 1871. He had with him 192 persons, negroes and Arabs, and as he launched out into the untravelled places of Africa, two words rang in his ears, "Find Livingstone." Enduring many hardships, sometimes fighting and sometimes coaxing the natives, Stanley pressed on his way, his general course being in a northwesterly direction, signs, rumors, and perhaps instincts, leading him to believe that Livingstone, if found alive, would be discovered somewhere in the region of Lake Tanganyika. It would be impossible to describe the vagueness and mysteriousness of the rumors which float to and fro in an untravelled and savage country, but as the intrepid adventurer pressed on he heard more and more credible reports of the lost white man. His first convincing intimation of his being near Livingstone was when a black met him, and, speaking to him in tolerably good English, told him that a white man was said to be in a village near by. This man was one of Dr. Livingstone's servants, and soon the two, one from America and the other from England, met at Ujiji, on the shores of the lake.

Stanley remained with Livingstone until March 14th of the following year, busied with explorations of the fascinating region into which he had penetrated. He supplied Livingstone with all of the goods that he could spare, and on his return to Zanzibar he sent him a caravan with men, supplies, and such articles as he needed, fulfilling the orders of Mr. Bennett. Stanley never again saw Livingstone in life.

Livingstone died of malarial fever contracted in the African marshes, and his faithful blacks embalmed his body and carried it to the coast, hundreds of miles, bringing with them every article belonging to the faithful missionary, even to the smallest scraps of paper on which were penned the last notes of his journey which he ever wrote. Livingstone was buried with grand ceremony in Westminster Abbey, and Stanley was one of those who bore him to his grave.

Stanley's early life was a romance. He was born in Wales, near the little town of Denbigh, and his parents were so poor that when he was about three years of age he was sent to the poor-house of St. Asaph to be brought up and educated at the expense of the parish. At the age of thirteen he was his own master, and though young, he was ambitious, well informed, and well poised. He taught school while yet a lad in the village of Mold, Flintshire, North Wales.

Tiring of this uncongenial occupation, he made his way to Liverpool when he was about fourteen years of age, and shipped as cabin-boy on board a sailing vessel bound to New Orleans. Like other British-born youths, America was to him the promised land, and thither he turned his steps in pursuit of fortune and fame. In New Orleans he fell in with a kindly merchant, a Mr. Stanley, who adopted him and gave him his name, for the youngster's real name was John Rowlands. His protector dying without leaving a will, the boy was once more turned adrift, but he managed to live and sustain himself, and when twenty-one years of age, in 1861, the great Civil War having broken out, Stanley went into the Confederate service then recruiting at New Orleans. He was subsequently taken prisoner by the Federal forces, and being allowed his liberty, he volunteered in the United States navy. He did his work well, and was in due time promoted to be acting ensign on the ironclad Ticonderoga. He made friends wherever he went, for he was brave, modest, and of a frank disposition. The war over he was discharged from the naval service, went to Asia Minor, where he saw many strange countries, wrote letters to the American newspapers, and in 1866 revisited his native village in Wales. Returning to the United States, he entered the service of the *New York Herald*, and went to Abyssinia as war correspondent, as before stated.

Stanley returned to Europe after his discovery of Livingstone, in July, 1872, and published his narrative, but many people in Europe and in America refused to believe his story. Some persons who thought themselves expert in knowledge of African travel proved to their entire satisfaction that he never had been far from the coast, never had seen Livingstone, and that his wonderful tale was a tissue of romance. The Queen of England showed her belief and confidence in him by sending him a box of gold set with jewels, and the Royal Geographical Society of Great Britain, a very high and mighty body, showed him great honor.

The attention of geographers and scientific men was now turned to the great Lake Tanganyika, about which very little was known. The outlet of the lake was as yet undiscovered. The secret sources of the Nile were unknown, and the great river that reaches the Congo coast from the interior was then, so far as men knew, lost in the foam of the cataracts above. Even the already famous lake known as the Victoria Nyanza was indistinctly sketched on the maps, and people familiar with African exploration were uncertain whether that great body of water was a lake or a chain of lakes.

Stanley was asked by the editor of the *London Daily Telegraph* if he could settle these great questions if he were commissioned to go to Africa. He replied, "While I live there will be something done. If I survive the time required to perform all the work, all shall be done." James Gordon Bennett was asked by cable if he would join in the new expedition. His sententious reply flashed under the ocean was: "Yes. Bennett." And Stanley's second great work was already determined upon.

Only six weeks were allowed for preparation, and when it was noised abroad that Stanley was taking another expedition into the heart of Africa, he was over-

whelmed with offers of volunteer assistants, and with a great variety of strange contrivances to help him on his journey. Finally, all preparations being concluded, he left England August 15, 1874, accompanied by only three white men, Frank and Edward Pocock and Frederick Barker. These men, with the goods and other needed articles for the expedition, were sent on ahead, and twenty months after his last previous departure from Zanzibar, Stanley was once more at that point of departure, ready to begin his preparations for another plunge into the heart of the Dark Continent.

Some of the black men who had been with him on his previous journey, when he searched for Livingstone, were found at Zanzibar, and they were all eager to go with him again, and when he was ready to depart he had in his company 224 persons, some of the black men taking their wives with them. The company after leaving Zanzibar landed at Bergamoyo, on the mainland, November 13, 1874, and five days later his column boldly advanced into the heart of the Dark Continent. The general direction of the expedition was at first nearly westerly, then turning to the north it was aimed for Victoria Nyanza. The march was obstructed by marshy regions, overflowing with recent rains. Moist exhalations and poisonous vapors prevailed, and the first month was a gloomy one. Stanley's own weight in thirty-eight days fell from 180 pounds to 130 pounds, and the three young Englishmen with him were greatly reduced in strength and flesh. One of these, Edward Pocock, was prostrated, and though he was carried back to the high, dry table land nearer the coast, he died and was buried in that lonely region.

By January 21, 1875, 20 of the black men of the expedition had died, many were sick and disabled, and 89, discouraged by their misfortunes, deserted. They were now in a hostile region, and were attacked by natives day after day in succession, but after much hard fighting they got away and labored onward toward the Victoria Nyanza, which they reached on January 27th, near its southern shore. This event was celebrated with great joy and cheerfulness; they felt that they were out of the wilderness. Six weeks were now consumed in a voyage around Victoria Nyanza.

During the absence of the exploring party, Frederick Barker, who had been left in the camp on the lake, died of fever, leaving Pocock and Stanley the only white men in the party. It was here that Stanley met King Mtesa, the King of Uganda, a benevolent and mild-mannered Pagan, who had previously been converted to Mohammedanism, and now accepted the Christian religion with equal cheerfulness and good-nature.

On his way westward Stanley passed through the regions of King Rumanika, an eccentric character, at whose court the white man heard many strange stories of unknown regions in the heart of the continent. From this point Stanley went southwardly to explore that part of Lake Tanganyika which lies south, and this he found to be three hundred and twenty miles long, averaging a width of twenty-eight miles. It has no known outlet, and a sounding line of two hundred and eighty feet found no bottom.

His next march from Tanganyika to the River Lualaba was toilsome and perilous and beset with dangers almost incredible. At Nyangwe Stanley touched the most distant point in Central Africa ever reached before by white man. Here he met with Tippoo Tib, the famous Arab trader. This man, who has always seemed to be master of the destinies and fortunes of the wild, roving tribes in the interior, agreed to accompany Stanley on his exploration of the Lualaba or Great River. If it had not been for this agreement with Tippoo Tib, it is most likely that Stanley's expedition would have ended then and there, and we never should have known, as we now know, that the Congo and the Lualaba are one river, the second largest in the world. Its line extends from its mouth on the west coast of Africa more than half-way across the continent, and it has its rise in the great lakes of the interior. To this vast stream Stanley has given the name of Livingstone.

The object of Stanley's journey now was to throw light on the western half of the continent, which was then represented on the maps by a blank, through which meandered a few vague and uncertain lines representing rivers, guessed at but not known. Stanley got on better with the natives than did any of those who had gone before him, for he was wise, patient, and gentle, and yet so firm and decided that he was held in great awe and respect by the black men wherever he was known. Leaving the river and deflecting to the westward, he struggled on through a forest matted and interlaced with vines, swarming with creeping things, damp and reeking with vapors, and dripping with moisture. It was a most intolerable and horrid stage of the journey. When again he struck the great river he resolved to go by land no further. Here he was abandoned by Tippoo Tib, who refused to go on. Stanley resolutely set himself to work building and buying canoes, and led by his own English-built boat, the Lady Alice, his expedition started finally down the river, which here flows due north. The fleet was twenty-three in number, and was loaded with stores, goods, and supplies.

It was a wonderful voyage. The explorers were harassed at times by savage tribes, some of them believed to be cannibals, who attacked the strangers from shore, or in pure wantonness, as they drifted down the stream. Sickness and hunger were often their lot, and they were overtaken by tropical storms. In some places, too, they encountered rapids and cataracts, around which their fleet had to be dragged through paths cut in the primeval forest while the savages hovered around them. The forests were populous with wild beasts; chimpanzees and gorillas, monkeys, and all manner of four-footed things infested the clambering vines that festooned the trees. They were once attacked by an hippopotamus, and elephants and rhinoceroses were never far away. At a point below where the great river turns from its great northerly course and flows westward, just above the equator, was discovered a series of cataracts, seven in all, the first of which was named Livingstone Falls and the seventh Stanley Falls. The natives from this point downward to the mouth of the Congo had lost something of their natural ferocity, as they had been tamed by trade from the west coast, and great was the rejoicing of Stanley's Zanzibar men when they encountered native warriors with

OVEREND FECIT.

STANLEY SHOOTING THE RAPIDS OF THE CONGO.

fire-arms in their hands, for this showed that they had reached a people supplied by traders from the Congo coast.

The passing of the last group of cataracts was attended by numerous dangers. In spite of all their efforts, canoes were sometimes carried over the falls and wrecked, and on June 3d, Frank Pocock, the last of Stanley's white companions, was drowned in the Congo by the upsetting of a boat. Pocock was a brave, faithful, and devoted follower of Stanley, who has paid a touching tribute to the manliness, affection, and courage of the young Englishman who lies buried in the savage wilderness of the Congo.

Very soon, as they drew nearer to the west coast, in the latter part of the summer of 1877, sickness, distress, and famine pressed hard upon the way-worn travellers. They were destitute of nearly everything that could sustain nature. The natives refused to sell supplies, and starvation stared them in the face. Knowing that a trading-post was established at Embomma, a two days' journey down the river, Stanley wrote on an old piece of cotton cloth a letter asking for help, which was sent to the trading-post by his swiftest runners. This letter was written in Spanish, French, and also in English, Stanley in his anxiety and despair leaving no means untried to reach the unknown traders whom he heard were at Embomma. The men into whose hands this three-fold message fell were English and Portuguese. Their response was prompt and generous. The messengers were sent back, followed by a small caravan laden with ample supplies of food and the necessaries of life, greatly to the relief of the starving people who, on the arrival of this timely aid, had eaten nothing for thirty hours. On August 9, 1877, the nine hundred and ninety-ninth day from the date of their departure from Zanzibar, Stanley's company, now numbering one hundred and fourteen blacks and one white man, met the generous traders and merchants of Embomma, who received the way-worn voyagers that had crossed the Dark Continent. From the mouth of the Congo the expedition was carried by steamer to Kabinda, a sea-port a short distance up the coast, whence they were taken to the port of San Paolo de Loanda, where they embarked on board a British man-of-war and were taken to Cape Town ; thence, touching at Port Natal, they steamed to Zanzibar, where they arrived on November 20, 1877. Long since given up for dead, the Zanzibar men were greeted by their kindred with signs of thanksgiving, tears and cries of joy. They had crossed the heart of the continent, doubled the great Cape, and were again at home.

Stanley returned to England from Zanzibar, arriving in December, 1877 The King of the Belgians had been planning an expedition to open up the Congo country to trade, and now requested Stanley to take command of his expedition. Stanley undertook the management of the new organization and returned to Africa in 1879, where he remained nearly six years, hard at work on the Congo, making roads, establishing stations, and opening the way for commerce. The Congo Free State, founded by King Leopold, lies chiefly south of the great bend of the river, and contains an area of 1,508,000 square miles, with a population of more than 42,000,000. The articles collected from the African trade at

points along the great river, are ivory, palm-oil, gum, copal, rubber, bees-wax, cabinet woods, hippopotamus teeth and hides, monkey skins, and divers other things. Stanley now made brief visits to Europe and the United States. While he was in this country, in the winter of 1886 and 1887, he was summoned back to Europe to take once more command of an African expedition to rescue Emin Pasha, governor of the province of Equatorial Africa. Emin is the Egyptian name of Dr. Schnitzler. He has been generally known throughout Africa as Emin Pasha, and was governor of the province which is one of the outlying posts of the Egyptian government, when the revolt in the Soudan took place. When General Gordon was besieged in Khartoum, the province of Emin Pasha was cut off from the rest of Egypt, and Emin was shut up in the region north of the Albert Nyanza, whose capital is Lado, on one of the minor branches of the White Nile.

To relieve him in his isolation and necessity, a subscription was started in England, and once more, equipped with men, arms, ammunition, and other supplies, Stanley sailed for Africa in January, 1887, making his headquarters as before at Zanzibar. The supplies for the expedition were shipped directly to the Congo and carried up stream by steamers. At Zanzibar, Stanley's old friend Tippoo Tib was met, and he signed an agreement making him Governor of Stanley Falls to defend that post against all comers, a salary being guaranteed him. Then, accompanied by Tippoo Tib, Stanley went to the mouth of the Congo by the way of the Cape of Good Hope, reaching the river March 18, 1887; then, ascending the stream on which he had met so many hardships and endured so much suffering, he carried his force of nearly one thousand men, and his supplies, arms, and ammunition, to the relief of Emin Pasha, an enormous quantity altogether. The white companions of Stanley on this expedition were Major Barttelot, who had served with distinction under General Wolseley in Egypt, Major Sir Andrew Clarke, Lieutenant Stairs, Captain Nelson, Dr. Park, Rose Troup, Mountjoy Jephson, William Bonny, and Mr. Jameson. Of these, two returned to England before the termination of the journey, and three perished during the wanderings of the expedition through forty-five hundred miles of trackless wilderness, pestilential marshes, and regions populous with hostile savages. From June, 1887, to December, 1889, the party was lost to the world and no definite news from it reached civilization.

The expedition, which had been divided into two parts, generally pursued its way in a northeastward course. Major Barttelot was left on the Aruwimi, at Yambuya, with 257 men and the main part of the stores, to await the coming of the promised reinforcements from Tippoo Tib. A long delay ensued, and troubles broke out in consequence (it is said) of the rash and imperious demeanor of Major Barttelot, and finally Barttelot was murdered and the entire rear-guard was broken down by desertion and pillage. Jameson collected the remains of the party, but he soon after died, and Mr. Bonny succeeded to the command and collected and kept the men together. Meanwhile, Stanley's march ahead was made with many difficulties, and he encountered rapid streams and other obsta-

cles unforeseen and unexpected. Toward the end of December, 1887, Stanley's expedition having reached the Albert Edward Nyanza, and still being unable to open communications with Emin Pasha, it was decided to return to the forest and build a fort, and, after resting the forces, make a new start toward the lake. This fortification, known as Fort Bodo, was inhabited until April, 1888, when Stanley pressed on, and finally found Emin Pasha and his companion, Dr. Casati. They had passed through the country of the dwarfs, nearly perishing with hunger, and when they reached the lake, Emin's soldiers had mutinied and he was a prisoner. Emissaries from the Mahdist Dervishes had stirred up the camp of Emin and caused inextricable confusion. Emin was reluctant to leave the province, and when Stanley and his white companions determined to attempt to reach Zanzibar by an unexplored route, Emin refused to depart. Four months were spent in an effort to overcome the reluctance of Emin Pasha and Captain Casati, who were unwilling to leave their people.

Emin's plea was that ten thousand of his people would have to be extricated from the province and carried to the coast. After many and exasperating discussions, Stanley refused to wait longer, and Emin, who had become nearly blind, brought away with him about five hundred persons. The expedition then, over a southeasterly route, made its way toward the coast.

The course of march from Albert Edward Nyanza was nearly in a direct line to the Uzinja country, on the southwest shore of the Victoria Nyanza. The party passed south of Victoria Lake and reached the east coast December 4, 1889. The caravan, since it left Albert Edward Nyanza, had dwindled from fifteen hundred to one-half that number. This latest journey of Stanley lasted one thousand and twelve days, of which hardly twenty were without tragical and perilous incidents. The story of the annihilation that overcame his rear-guard has been often told. It will probably never be settled exactly where shall be placed the blame for that frightful disaster.

On his return from the Emin relief expedition, Stanley revisited the United States, accompanied by his bride whom he had lately married. He gave lectures in several of the larger cities of the country on his surprising adventures in Africa. He was now prematurely aged by his terrible experiences, and though his eye was still bright and his frame alert, care and privation had whitened his hair, exposure had darkened his skin and left its wrinkled impress on his forehead. Everywhere he was received with the greatest enthusiasm and followed by eager thousands, who gazed upon his face and hung with rapture on his words. In 1892 he returned to England, and availing himself of his British nationality, stood for Parliament in the District of Lambeth, City of London, as a Conservative candidate. Much to the surprise and grief of his friends he was defeated and since then he has remained in private life.

THOMAS ALVA EDISON*

By Clarence Cook

(born 1847)

As someone has called Leonardo da Vinci "the great Italian Yankee," because of his multifarious and ingenious suggestions in the world of material things, so our own Edison may be called "the Yankee Leonardo," for, with a curiosity ranging over the whole world of nature, equal to that of the Italian, and with a fecundity of invention no less bewildering, he unites, like Leonardo, an imaginative and poetical vein that lifts his devices into the domain of Art.

Yet Edison is in no respect a graceful or romantic figure such as Leonardo was. He reminds us rather, by the weird and cosmic nature of his speculations and inventions, of some one of the beings created by the Norse mythologists: a nineteenth century gnome, rough, shaggy, uncouth, wholly absorbed in his search among the secrets of nature, and, while working always for the good of mankind, dwelling in a world apart, and with neither time nor inclination to mix in human affairs.

Thomas Alva Edison was born at Milan, Erie County, O., February 11, 1847. He started in life hampered by poverty, by want of teaching and training, without friends outside his own home circle to encourage him in pushing his fortunes, and with small opportunity, in the little village where his lot had been cast, for bettering his condition. On his father's side he came of sturdy Dutch stock: the old man, who was still living in 1879 at the age of seventy-four, reckoned among his immediate ancestors one who lived to be one hundred and two years old, and another who reached one hundred and three. He would appear to have been, like pioneers in general, ready, if not obliged, to turn his hand to any employment that might yield a living, that must be scanty at the best; and we read of him as in turn a tailor, a nurseryman, a dealer, first in grain and then in lumber, and an agent for the sale of farm-lands. He seems to have been unable to do much for his boy beyond teaching him to read and write, stimulating his taste for reading by paying him small sums of money for every book he read through; he had no need to insist that the reading should be done thoroughly, for it was the boy's way to do thoroughly everything he undertook. His mother, also, helped Thomas in learning: she was of Scotch extraction; but, though her parents were from the old country, she herself was born in Massachusetts, where for a time she had been a school-teacher. This, then, with the exception of two months at the village school, was the limit of young Edison's education—to use

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the conventional term. The world was now to take him in hand, and show what it could do with material so unpromising.

Before he was twelve years old, the boy had found a place as newsboy on the Grand Trunk Line running to Detroit. In the intervals between his raids upon the helpless passengers with his newspapers, periodicals, novels, and candies, he kept up the habit of reading, and by practice acquired a remarkably clear and finished handwriting. His next step was to secure the sole right of selling newspapers on the train, and he soon had four boys under him to assist him in the work. Having then bought a lot of old type from some printing-office, he rigged up a rude frame in one of the baggage-cars that served as a lumber-room, and then proceeded to set up and print a newspaper which he called the *Grand Trunk Herald*, and sold with the other newspapers. As he had no press, he was obliged to take off the impressions by rubbing the paper on the inked type with his hands. In some way, a copy of this newspaper found its way to the *London Times*, and the editor spoke of it as the only newspaper in the world printed on a moving train. During the fighting at Pittsburgh Landing in 1862, Edison printed off abstracts of the telegraphic news, and posted them up at the small country stations, thus rendering a great service to the people anxiously waiting for news from the field. The terminus of his train was Detroit, and here, for the first time, he had access to a library. In his enthusiasm at finding himself in virtual possession of such a treasure, he determined, then and there, to read the whole library through, as it stood, using his time between trains. Beginning at one shelf he read fifteen feet in a line, going through each book solidly from cover to cover. In this first bout, among other books, he read Newton's "Principia," Ure's "Scientific Dictionary," and Burton's "Anatomy of Melancholy."

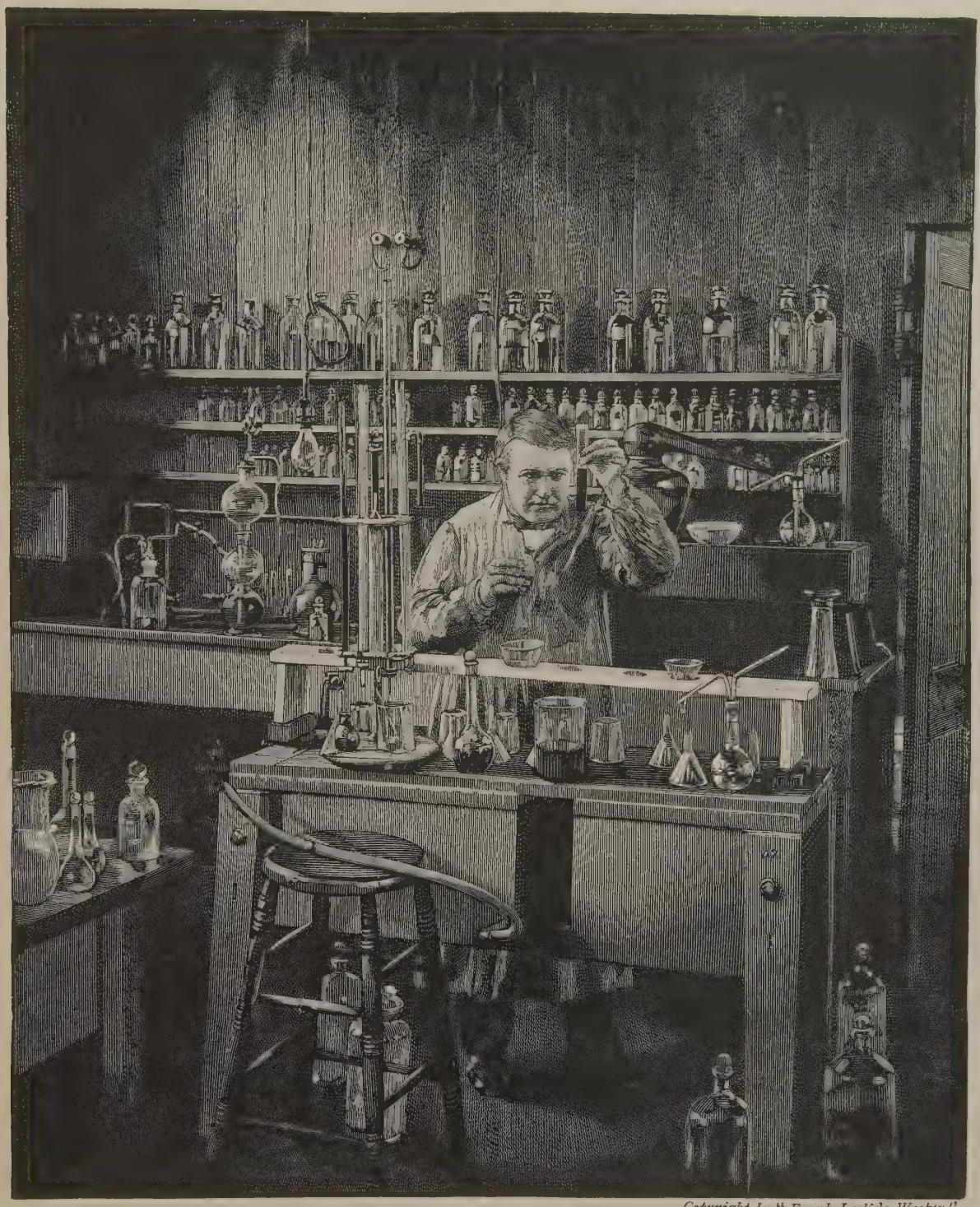
All this time, by hints and suggestions, Nature had been pushing the youth toward the field he was finally to occupy almost by right of eminent domain. As yet, telegraphy was in its infancy, and the powers of electricity only beginning to be known. Edison had from the first been interested in the workings of the telegraph line along the railroad, and had made some experiments with a rude line of his own, connecting his father's home at Port Huron—a village to which the family had some time before removed from Milan—with the house of a neighbor. To do this, he had to make a battery out of odds and ends, old bottles, stove-pipe wire, and nails made out of zinc contributed by his youthful friends, who in their zeal cut pieces out of the zinc mats under their mothers' stoves. He had no one to teach him telegraphy, but an accident—if accidents there be—was unexpectedly to put him in the way of learning its secrets. The child of the station-master was in danger from a moving train; young Edison snatched it up and saved its life at the risk of his own, and the grateful father rewarded him by teaching him what he knew of telegraphy.

Armed with this rudimentary knowledge, and with what, in addition, he had learned by practice, Edison passed the next few years of his life in moving about over the country, seeking employment less, it would appear, for the sake of employment than for the opportunity of increasing his practical knowledge of

the art that was to swallow up, in his mind, all the other arts. But he seems to have succeeded almost in spite of himself. He was so eager in his chase after knowledge that he was continually tripping himself up. While still at his trade of newsboy on the Grand Trunk Railroad, he had come across, at Detroit probably, a copy of Fresenius' "Qualitative Analysis" and had become so much interested in chemistry, that alongside his printing-press he had fitted up a small laboratory with a chance-medley apparatus for experiments, and one day a bottle of phosphorus was upset, and the car taking fire was only saved by the energy of the conductor, who promptly pitched the whole apparatus, with the printing-press to boot, out at the door, and then gave the young Fresenius-Franklin a thrashing. Later we hear of him, in the course of his wanderings, set to watch a telegraph-machine in the absence of the operator, and to prove that he was on guard he was to send the word *six* over the line every half-hour. Not to be interrupted in the book he was reading, he contrived a device that did the work automatically. In another office he kept back messages while he was contriving a way to send them more quickly! Disappearing from this office, he appears again in another, this time in Memphis, Tenn. But his interest in solving the problem of duplicate transmission proved so absorbing that he continually neglected his duties, and on the occasion of a change of officers he was dismissed as a useless member of the staff. At Louisville he upsets a carboy of sulphuric acid which ruins the handsome furniture of a broker's office on the floor below, and again finds himself adrift in an unappreciative world. Yet he had proved himself, in spite of all drawbacks, an adept of uncommon skill in telegraphy; and so widespread in scientific circles was his reputation, that he was sent for to Boston to take charge of the main New York wire. The impression made by the records of his life at this time is, that he looked upon all these employments merely as so many opportunities for earning his bread while pursuing his beloved experiments, and that the bread-earning was the least important part of the affair. No doubt, he always meant to do his duty, but the ecstasy of invention and the thirst for discovery carried him out of himself and made him often oblivious of sublunary things. While in Boston he still kept up his experiments and perfected his duplex telegraph, but it was not brought into successful operation until 1872.

In 1871 he came to New York, and having attracted the attention of the Stock Exchange by some ingenious suggestions put forth while busied in repairing the machine that recorded quotations, he was made Superintendent of the Gold and Stock Company, and brought out his invention of the printing-telegraph, by which the fluctuations of the stock-market in any part of the country are instantly recorded on narrow strips of paper.

The immediate success of this invention, and the great demand for the machines, led him to establish a workshop for their manufacture in Newark, N. J. But soon the need of still more space, and the desire for freedom from interruption while at his work, obliged him to give up Newark, and he found new quarters at Menlo Park, N. J.—a bare plot of barren acres destitute of



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THOMAS A. EDISON - THE WIZARD OF MENLO PARK.

natural attraction of any kind, unless it be—what to Edison indeed is a great charm—an uninterrupted view of the sky; a place virtually unknown before he planted there the rude buildings that house his wonderful inventions; yet now a place known to scientific men all over the world; the Mecca of many a mind seeking to wrest from Nature her dearest secrets.

No doubt, many of the inventions that have made Edison famous must be ascribed in their conception and ripening to various periods of his life, but to the popular mind they are all associated with the wizard's present home, from whence for several years the bulletins of inventions—playful, useful, necessary, revolutionary—often as simple in their mechanism as they are astonishing in their results, have been given to a delighted world. Some of Edison's inventions have a character at present of little more than picturesque playfulness, such as the Phonograph, perhaps the most remarkable of these minor inventions; the Aerophone, by which sounds are amplified without loss of distinctness; the Megaphone, an instrument which, inserted in the ear, so magnifies sounds that faint whispers may be heard a thousand feet; the Phonometer, for measuring the force of the sound-waves caused by the human voice; the Microtasimeter, for measuring small variations in temperature. This has been tested for so small a variation as $\frac{1}{24000}$ of a degree Fahrenheit, and in 1878 was used to detect the presence of heat in the sun's corona. The most familiar of these lesser inventions is the Phonograph, by which sounds are made self-recording and capable of being repeated. While this curious invention—almost childish in its simplicity—is as yet little more than a plaything, and has proved of small utility, it makes, nevertheless, a strong appeal to the imagination when we reflect that by its aid the voice of any human being may be transmitted to ages far in the future, and its living tones be heard long after he who uttered them has returned to the dust.

But, while these inventions have the charm that invests "the fairy-tales of science," the world-wide fame of Edison rests upon greater gifts to the world; the various improvements he has made in the telegraph, and the perfection to which he has brought the electric light. The invention of the telephone, by which persons are enabled to converse with one another at very long distances, and by which concerts, operas, and orations or sermons in one city can be heard by an audience assembled in another, is one of the most remarkable of Edison's achievements, and one the usefulness of which in various directions it is easy to foresee. The idea of the transmission of messages in opposite directions by the same wire was one that had early occurred to Edison; but he was long in reducing it to practice. The secret once discovered, however, he rapidly progressed until he had brought out the sextuple telegraph, where we believe the ability of the instrument rests at present.

The inventor next turned his mind to the study of the electric lamp, in which he saw great possibilities. He believed that he could produce a light that should be cheaper than gas, and also purer, more steady, and more to be depended on. He rejected the principle of the Voltaic arc involved in the Brush patent then in use, by which the electric current was passed through a strip of platinum or other

metal that requires a high temperature to melt, because in practice it was found that in fact, owing to the difficulty of regulating the flow of the electric current, the medium did often melt. He therefore sought for a medium that should be practically indestructible, and believed that it would be found in pure carbon enclosed in a vacuum. After many trials with one and another substance, he at length found that by employing slender strips of card-board reduced by intense heat to carbon, connecting them with the wires leading from the machine, and enclosing them in glass bulbs from which the air had been extracted, the desired result could be produced. The next step to accomplish was the division of the light, so that any number of lamps could be supplied by the same pair of wires—a condition absolutely necessary if the invention were to be of practical utility as applied to the lighting of factories, public buildings, or private households, wherever, in short, many lights are needed. This was finally accomplished, and in December, 1879, an exhibition was given at Menlo Park of a complete system of lighting. This first demonstration of the possibility of light-division created a great interest in scientific circles all over the world, especially as scientific experts had testified before the British House of Commons that the feat was impossible. The Edison incandescent burner is now in use in every city, town, and hamlet in this country, and it would seem as if it must of necessity before long drive the costly, unhealthy, and dangerous coal-gas out of use for illuminating purposes, although we believe a wide field of usefulness lies before the coal-gas as a substitute for coal in our kitchens.

Thomas Edison has received few public honors from his countrymen ; but the nature of his work has been such as to make his name a household word throughout his native country ; and not only by the admiration excited by his genius—for it deserves no less a name—but by the practical, every-day benefits he has conferred, he has earned a place in the good-will and esteem of his fellows such as seldom falls to the lot of man.

Clarence Cook